The impact of a training intervention on emotional intelligence, leadership styles, self-efficacy and perception of sense of power in a university nursing faculty in Saudi Arabia

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List of Abbreviations

CASP	Critical Appraisal Skills Programme
CG	Control group
CINAHL	Cumulative Index of Nursing and Allied Health Literature
e.g.	For example
GSE	General Self-Efficacy Scale
EI	Emotional Intelligence
IG	Intervention group
KSA	Kingdom of Saudi Arabia
KSMC	King Saud Medical City
MEDLINE	Medical Literature Analysis and Retrieval System Online
MLQ	Multifactor Leadership Questionnaire Scale
MoE	Ministry Of Education
NCAAA	National Commission for Assessment and Academic Accreditation
PICOS	Population, Intervention, Comparison, Outcomes, Study design
PIS	Participant Information sheet
PSP	Personal Sense of Power Scale
RCT	Randomised controlled trial
SPSS	Statistical Package For Social Sciences
SSEIT	Schutte Self Report Emotional Intelligence Test Scale
UK	United Kingdom
UoS	University of Salford
USA	United States of America

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Abstract

Rationale

The importance of emotional intelligence (EI) has been highlighted as an influential contributor to enhanced performance in a range of job-related areas, including leadership (Mills, 2009), self-efficacy (Gharetepehet al,2015) and sense of power (Schutte and Loi, 2014). Whilst EI has been studied in a range of cultural contexts, relatively few studies have been conducted on this concept in an Arabic context. Furthermore well-executed and well-planned training programmes have been shown to impact positively on participants' levels of EI (Gorgas et al, 2015; Nelis et al, 2009), yet there have been few published studies on such interventions which have utilised appropriate designs and been based on theoretically-driven components in work contexts. Previously published studies in this area have incorporated relatively small sample sizes (e.g. Lange, 2014; Nelis et al, 2009) and have tended to utilise student populations (Vesely et al, 2014; Carrick, 2010).

This original study was designed to address the above gaps indicated in the literature, by assessing the impact of relevant training on a range of work-related and personal psychological outcomes, including EI, leadership style, self-efficacy and perceptions of power in university employees working in Saudi Arabia.

Method

A quasi-experimental within-participants design was used to test the effectiveness of a one-day emotional intelligence training intervention. The sample was recruited from nursing colleges across four different sites within the same university: two campuses served as control groups (n = 83) and two more as the intervention group (n = 85). Approximately equal numbers of men and women participated in each condition. Training consisted of providing information about EI, as well as discussion and practice of relevant strategies by participants to enhance the range of emotional competencies identified within Goleman et al's (2003) EI model. Both the intervention and control groups completed the Schutte Emotional Intelligence Self-Report Scale (1998), the Multifactorial Leadership Questionnaire (Bass and Avolio, 1995) and measures assessing self-efficacy and perceptions of power. Participants in both groups completed the research measures at four time-points: immediately pre- and post- workshop

(there was a one day equivalent interval for the control group) and at one month and three months follow-up.

Findings

No differences were found at baseline between the intervention and control groups on any of the research measures. Subsequently participants in the EI intervention group – compared to their own baseline pre-intervention scores - recorded significantly improved scores in emotional intelligence, transformational leadership style and self-efficacy one month after completing training. These increases were apparent at the EI subscale level and were maintained or improved upon at the three months follow-up. Over the same time period, a significant decrease was recorded in laissez-faire leadership scores in the intervention group, however no changes were observed after the training in transactional leadership style and perceptions of power. By comparison, the control group showed no changes in scores on the research measures. Between-group comparisons confirmed that at the one month and three months follow-up points, the intervention group scored significantly higher than the control group in each EI component, in self-esteem scores and in transformational management styles.

Conclusion

The intervention programme was effective in increasing emotional intelligence level, and it has had positive effect on transformational style and self-efficacy, for these employees in higher education. Emotional intelligence training and intervention need to be considered for the work environment in higher education and other sectors for better performance in order toward change and accomplish the Saudi national goals of 2030.

Contributions /implications

This study sets out to add to the body of knowledge by assessing the impact of emotional intelligence training on EI level, leadership styles, self-efficacy, and perceptions of power at work. The overall efficacy of this EI training intervention is supported by the significantly increased post-intervention scores among workshop participants compared to the non-participating control group. This has implications for future research as well as practitioner developments in the field of EI at work and as far as the author are aware, this is the first study of its kind in Saudi Arabia.

Chapter One: Introduction and background

Introduction

This chapter provides an overview, beginning with an introduction about the topic and status of emotional intelligence in Saudi Arabia, a description of the Saudi cultural context and study setting, leading to the research problem, aim and questions and the significance of the study.

Research background

For many years, management and leaders of companies have been directed to leave their feelings and emotions at the door when they enter their workplace. But nowadays, researchers have shown that it is impossible to separate emotions from their influence on actions in the workplace (Mathew and Gupta, 2015).Emotional intelligence (EI) is referred to as an ability to know oneself and others and then to compare our understanding of both, managing one's own emotions as well as those of others while using emotions as a means of gathering information (Michaela, 2014). EI has also been defined as 'the ability to justify the emotions and enhance thinking through emotions (Igbinovia and Popoola, 2016). EI can be considered a scale to judge others' feelings and emotions in the shadow of one's own emotions and there are calls for leaders and management to adopt an emotionally intelligent approach in the organization (Smith, 2016). Moreover, Shapira-Lishchinsky and Levy-Gazenfrantz, (2016) argue that emotionally intelligent leaders are more competent in making decisions as well as making alternatives plans, having abilities to generate win-win solutions in problem solving, and the confidence to gain trust and harmony for efficient organisational performance.

Furthermore, Goldring et al., (2015) state that emotionally intelligent leaders can manage others' emotions as well as their own and they achieve greater cooperation of their workforce in completing a company's mission. Emotionally intelligent managers are creative and able to influence emotions and relations, which are reciprocal between followers and leaders; hence EI is critical to efficient management (Mintz and Stoller, 2014). Creativity in emotionally intelligent leaders isbetter than in leaders who are not emotionally intelligent, the former can provide better motivation and inspiration for group working because their EI approach is strongly matched with employees' emotions (Siegling, Nielsen and Petrides, 2014).

Not surprisingly, San Lam and O'Higgins, (2012) believe that EI represents a mandatory set of skills necessary for efficient management.

Overall EI appears to characterise the kind of intellect that needs cleverness and insight (Singh, 2013), i.e. features that would lead to improved performance of higher education in Saudi Arabia (KSA). The World Economic Forum (WEF, 2016) has indicated that EI is regarded as one of the top 10 skills required in future careers by 2020. It is recognised as the sixth most demanded skill by employers, ensuring that in the years ahead more attention will be devoted to investment in EI skills in workplace settings. The most important and essential key feature in executing the overall education structure of KSA is to give more attention to providing advanced professional training to promote EI for a better education environment. This also relates to the Government's vision to improve the economy through local skilled employment in the KSA. This new approach can play an active and energetic role in showcasing future talent by improving higher education performance in the Kingdom. This research will therefore investigate the efficiency of EI training for higher education in Hail University and examine how such training can promote EI in higher education sector in Saudi Arabia. Although the next section will discuss the outcomes of selected studies carried out to explore EI in Saudi Arabia, it is clear that none of these studies to date has employed intervention or training, which is why the researcher is keen to address this gap and to add to the body of knowledge.

The status of emotional intelligence in Saudi Arabia

There have been limited research studies on EI in Saudi Arabia and these studies differ in their context. Al Kahtani (2013), writing about EI in higher education in Saudi Arabia, recommended a suitable framework for following EI in this particular environment is adopting the model proposed by Mayer and Salovey.Mayer and Salovey who determined the employment constructs like Self Emotional Appraisal (SOA), Use of Emotions (UOE), Others' Emotional Appraisal (OEA) and Regulations of Emotions (ROE) are general techniques which can be used to calculate and identify the emotions. Al Kahtani (2013) also highlighted that employees' anxiety, stress, irritability, pressure of work, depression and agitation are related to EI dimensions. All of these connected factors can affect the performance of any worker. Not only can emotions have their influence on employees' work, but they can also raise or lower morale which can influence the performance and productivity of a worker in either a positive direction or a negative direction. This research first proposed how such an approach can help

out the Saudi higher education sector. Another study by Alferaih (2015) considered a conceptual model of emotional intelligence for job performance in organizations and work culture in Saudi Arabia in general and banking sectors in particular. This study selected Goleman's (2002) mixed competency-based model as a base for the proposed model and found support for the EI constructs proposed by Goleman being associated with improved levels of job performance amongst employees and managers in the Saudi banking sector.

Moreover, Alghamdia (2013) analysed the influence of EI on capabilities of school leaders to make better decisions and examined how it helps them to enhance their communication within school, for example with middle management, parents, students and teachers. He explained that some of the critical factors affecting school leaders are the centralization of education system that has led to unmotivated leadership. Moreover, that the nature of existing development programs is still behind the average. Therefore, he made recommendations for Saudi policy makers to produce new educational leadership strategies that need to be aware of understanding the characteristics of emotional intelligence and recognize the benefits of employing EI skills in an educational work environment. From this point, the current research is going to take those recommendations into the work context by testing the impact of an EI intervention program on work-based outcomes, namely: leadership style, self-efficacy and sense of power in the Saudi Arabian context.

In the same way Naeem et al., (2014) conducted cross-sectional research in three medical schools in Saudi Arabia to examine the relationship between emotional intelligence and academic achievement for medical students. EI level was measured by Schutte Self Report Emotional Intelligence Scale (SSREIS), while academic achievement was measured by obtaining the cumulative grade point average (CGPA). They found that due to good academic results, medical students register in medical schools but in practice their success ratio differs from one another based on their interpersonal skills. EI facilitates better interpersonal relationships as well as success in life(Goleman, 2005), so it is useful to understand and measure the EI and its dimensions for undergraduate students. The result in this research demonstrated that there was a significant relationship between student academic achievement and their Optimism Subscale of EI ($p < 0.001$), no gender differences were reported in this study. Accordingly his paper was calling for including EI skills development within the medical curriculum for better work and healthcare outcomes.

Moreover, research conducted by Ibrahim et al. (2017) investigated the predictors of EI, as well as its relationship with academic performance, leadership capacity, self-efficacy and perceived stress among medical students in Saudi Arabia. A cross-sectional study design enrolled 540 university students to complete different self-report measures: SSREIS, Authentic Leadership questionnaire, General Self-Efficacy Scale and the short version of Perceived Stress Scale (PSS-4). The result showed that all EI subscales (perceptions of emotion, managing own emotion, managing other emotion and utilization of emotion) correlated positively with the authentic leadership subscales (self-awareness, internalized moral, balanced processing and relational transparency) and self-efficacy ($p < 0.05$). The findings conclude that EI was positively associated with better academic performance, leadership capacity and self-efficacy. While EI negatively correlated with perceived stress, female gender was predictive of higher EI. The authors recommended training programmes on EI, leadership and self-efficacy. The current research will help to address this gap by identifying the effect of an EI intervention on levels of EI, leadership style, self-efficacy and sense of power in a Saudi university workplace environment.

However, there have been contrasting findings too. Research by Suliman (2010) with Saudi nursing students examined the relationship between emotional social intelligence, learning styles, and academic success. A total of 98 students were recruited to fill in self report questionnaires: the Bar-On emotional quotient inventory (EQ-i) andKolb learning style inventory. These findings illustrated no actual relationship between emotional social intelligence and academic success. Similarly, Alghamdi (2014) explored the relationship between individual performance and trait emotional intelligence. Data were gathered using the SSREI (Schutte self-report emotional intelligence) questionnaire, which was distributed among undergraduates in the Saudi province of Albaha. 191 students took part and the results showed the relationship between academic performance and emotional intelligence was notsignificant; as well no significant differences between male and female were recorded.

There has been similar research focussing on healthcare students too. For example, Al Asmari (2014) explored the effects of EI on the academic success of students of English language in both male and female students in Saudi schools. Using the Bar-On emotional quotient inventory (EQ-i, 125), data was gathered from one hundred male and one hundred female students. It was observed that EI level in female students had a positive link with academic performance ($p < 0.001$) and females also scored high in EI elements like stress management, interpersonal and intrapersonal skills. This research indicates that if EI abilities

are enhanced in both genders at undergraduate level, they may achieve higher academic as well as professional success.

A study by Alghamdi, Aslam and Khan (2017) aimed to investigate whether emotional intelligence can be a predictor of personality traits among university teachers working as student advisors. The SSREIS and Big Five Inventory (BFI) were used to measure EI and personality traits. One hundred (50 male, 50 female) participated in this study and the findings indicate that three aspects of personality traits, extraversion, agreeableness, and openness to experience, can significantly predict EI. Also, this result found no gender differences in EI.

The Schutte SSREI measure features in a number of these studies and was the focus of work by Mohamed, El Khouly and Saad (2012). They assessed the consistency and factor structure of the Arabic translation of Schutte's SSREI using data from 453 participants across Saudi Arabia, Kuwait and Egypt. This was the first paper that opened future opportunities for researchers to systematically measure EI in the Arab region using an Arabic language EI scale, although this scale has been used in this study in the English version as this is the spoken language in Saudi universities (Alrashidi and Phan, 2015).

As has been discussed above, EI is commonly judged on common criteria like self-management, sensitivity of awareness, social awareness, self-efficacy and self-awareness. For effective leadership, EI is considered a core feature because through this a leader or manager can control his/her own emotions as well as manage other team members' feelings and emotions in the workplace (Li, et al., 2016; Lobinger and Heisler, 2016; Kotzé and Nel, 2015; Preston et al., 2015; Hwang, Feltz and Lee, 2013).The majority of previous research in EI within Saudi context, has recommended introducing EI training programs to universities, but there is a need to investigate the efficacy of such programs. Therefore, this, study sets out to add to the body of knowledge by assessing the impact of emotional intelligence training on emotional intelligence levels, leadership styles, self-efficacy, and perceptions of power in an academic work environment. The next section will discuss the context of the study with regard to the geographical characteristics of the region, selection of the study sample as well as the local culture of the study location for the purpose of understanding how these could affect the method or outcomes of the current research.

Context of the study

This study took place in Saudi Arabia which is one of the largest Middle Eastern countries. Understanding the nature of the cultural and geographical context of the study will help in identifying the setting and the sample of the study which are, in fact, crucial to such studies (Polit and Beck, 2006).

Geography of Saudi Arabia

Saudi Arabia is a land characterised by rapid transformation both economically and socially. Several of the Kingdom's communities located on both sides of caravan pathways have been converted into booming and flourishing towns interconnected by roads and telecommunications (Vincent, 2008). Saudi Arabia is the largest country that covers the majority of the Arabian Peninsula(Figure 1).

Figure 1: *Map of the Saudi Arabia (World Atlas, 2018).*

Saudi Arabia has an area of 2,149,690 km^2 which is located across the Tropic of Cancer and occupies about 75% of the entire Arabian Peninsula (Vincent, 2008). In perspective of its magnitude, the Kingdom is approximately nine times the size of the United Kingdom or about 2/3 the size of the European Union, and is second only to Algeria in North Africa in terms of

size amongst the Arab states. As Saudi Arabia comprises the majority of the Arabian Peninsula, it is bounded by the Red Sea in the West - an important world trade artery (Wilson and Graham, 2016) - and the Persian (or Arabian) Gulf in the East (Figure 1) - which serves to transport 60 per cent of Japan's, 30 per cent of Europe's and 10 per cent of the United States' oil. Saudi Arabia is bounded to the North by the states of Iraq, Jordan, and Kuwait, whilst Oman and Yemen lie to the South. Further to the East of Saudi Arabia are the states Qatar, Bahrain, and the United Arab Emirates (U.A.E.) (World Population Review, 2016). The peninsula is an elevated and sloping highland that angles slightly towards the Arabian Gulf and with it are enclosed some of the world's great sandy deserts (Vincent 2008). The Kingdom is divided into 12 regions known as governorates. These regions are: Al-Riyadh, Makkah, Al-Madinah, Aseer, Eastern Region, Hail, Northern Boundaries, Al-Qassim, Najran, Al-Baha, Tabouk, and Al-Jouf.

Study setting

As one of the administrative regions of Saudi Arabia, Hail has an area of 103, 887 sq km. Hail region is located in the northern part of Saudi Arabia, furthermore the Northern Region encompasses ten prosperous individual towns of which four feature in the current study: Alshanan and Hail (intervention group sites); Samara and AlShamli (control group sites).

Hail University

Hail region is the Home of Hail University, with 15 colleges under the University, including the Colleges of Nursing, Applied Medical Sciences, Medicine, Public Health, Pharmacy and Shariah Law. The first students were admitted to the newly formed university on 11th February 2006, Hail University having been a community college as part of the King Fahad University of Petroleum and Minerals. Since then, the university has grown to accommodate a student population of 32,000 (University of Hail (UOH), 2018). Moreover, the university has expanded its location to three branches to increase student enrolment and to offer educational services in different provinces including Alshanan, Alshamli and Samara in Hail region which include a nursing college campus in each locations.

Culture

Culture represents the sum total of norms, beliefs and ethos which shape the behaviour of the person and directs the manner in which things happen in an organization. It is important to understand the existing norms and culture beliefs of any organization (Eliot, 2014). Hofstede (2001) observed that culture of an organization represents its collective programming which differentiates one group from the other. Others regard culture as a system comprising shared values (Deshpande and Webster, 1989). There are two ways which necessitate the importance of understanding the culture. Firstly, insight into culture yields understanding about the extent to which the persons of the organization are willing to accept change in the organization and secondly, their ability to identify the root cause of issues and then address performance.
Burke (1994) argued that culture also shapes the interpretation of events which occur in the workplace and the way it influences the things happening there. This can be understood by taking an example of the organization which has the best strategy in the world about a particular task. But if it does not have the culture which allows doing the task in this regard then failures will arise. The significance of culture for management is based on how it can influence individual development (Blake and Laurence, 1989). Therefore, culture can be regarded as a collective mind set of the organization which acts as a moderating variable for all who work within it. The following section will highlight the local culture of Saudi Arabia drawing on the work of Hofstede.

Saudi Arabian local culture

Research on EI has characterized it as a capacity which focuses on the expression and perception of accurate and adaptive emotions along with the capability to know emotional information, use emotions to help and to implement emotions, not only for oneself but also for others (Šimanskienė and Ramanauskas, 2014). Scott-Halsell et al., (2013) declared that it has been associated with different positive outcomes like leadership, minimizing job place pressure and positive job behaviour (Whyte, 2016), team collaboration (Gunkel, Schlägel and Engle, 2014), performance and job results (Slaski Cartwright, 2002; Wong and Law, 2002). Barczak, Lassk and Mulki, (2010) added that to understand an organization there is a need to understand the local culture first. Therefore, this section is going to discuss the Saudi Arabian culture that provides the context for the higher education sector and for this study.

The national culture produces the social context that shapes behaviours (Khlif, 2016). There are many seen and unseen tiers of culture; the visible layer contains physical existence

like building and food, and on the other hand an invisible layer contains beliefs, values and norms (Hofstede, 1994: Hofstede et al., 2010: Khlif, 2016). Therefore the concept of national culture affects experiences and enhances emotional and cultural information along with cultural and emotional intelligence. Experience and observation allow understanding of different cultures and help to change behaviours if needed (Alhirz and Sajeev, 2015). An individual can learn both cultural and emotional behaviour through cultural exposure (McSweeney, 2013). Arguably the most significant concepts of organizational culture are focused on value because these can contribute an immense role to the 'invisible' layer of culture (Duran and Avalos, 2016). Therefore, this section also includes consideration of Saudi Arabian local culture in conjunction with Hofstede's culture dimensions theory. Some of those dimensions are particularly relevant and give a better understanding and explanation of the study variables, e.g. hierarchical culture in KSA, the nature of power distance in local culture and gender communication which are discussed below, given their potential implications for the study of EI described later on.

Power distance in Saudi Arabia

This term deals with the reality that all persons in one society are not equal. It elaborates the behaviour of the culture of dissimilarities among all stakeholder of society. Power distance is known as the degree to which the low powerful individuals of an institute and firm within a country accept and expect the unequal distribution of power (Achim, 2016).

Saudi Arabia has one of the highest power distances in the world. In this regard, Saudi Arabia ranked high which means that the public accepts a hierarchical order in which everyone has a distance, and which requires no further clarification (Hofstede, 2018). Hierarchy reflects inherent inequality, on the other hand juniors expect to be told about order and the ideal leadership may be seen as a generous dictator (Alzeban, 2015). Therefore, it should be noted that the power is fully centralized in higher education sector in Saudi Arabia (Almejmaj, Meacham and Skorinko, 2015).

There are various reasons behind this distance but the prominent one is religion. Although the form of government in Saudi Arabia is a monarchy (Alshafi and Qassim, 2013), all visitors to the Kingdom are expected to abide by the Islamic laws expected of Muslims. The Saudi society legitimizes the power distance on the basis of religion (Robertson, et al., 2013). The system promotes the elites to superior position without any merit-oriented system. It is

believed that the power distance is provided by the religion and thus is regarded as legitimate (Elamin and Tlaiss, 2015).

Power distance is not only promoted in the name of religion but also on sociological and psychological bases. Children in Saudi society develop a particular mindset about the basis of culture and societal norms. For example, it is believed that it is absolutely vital to obey superiors and the Government. Thus, power distance is regarded as part of the culture (Minkov, Blagoev and Hofstede, 2012).

The power distance has also affected the regulations and laws thereby enabling the government to rule in an unlimited and unrestricted manner which is directly linked to organizational structure in Saudi Arabia (Achim, 2016). This aspect of Saudi culture has potential implications for the current study as it may have affected how participants in this study were willing to practise their own personal sense of power.

Hierarchy

The management culture in Saudi Arabian organisations is hierarchical in nature so that employees do not work on their own initiative. Instead they wait for the direction of the managers. Therefore, the structure of organizations in Saudi Arabia reflects this (Elamin and Tlaiss, 2015). The job of the managers in such organizations is to undertake decisions which can be enforced by the subordinates following their orders. Therefore, what Western observers regard as micromanagement is normal routine in Saudi organizations: workers in Saudi organizations are subordinates whereas managers are the leaders who lead the workers and workers obey them (Minkov and Hofstede, 2012). For example, to get a job done it is essential that the senior tells the junior what to do. If a manager does not tell the worker about what needs be done, then the job remains unaccomplished. A manager who does not make any particular job requests can also face problems as it will affect the productivity of the organization (Elamin and Tlaiss, 2015). Consequently it is imperative for workers to respect the managers and not question the authority of management (Robertson, et al., 2013). It is because of this authoritarian style of management and leadership in Saudi Arabia, managers are expected to provide clear expectations about what must be done and how it can be done. This can be observed from the wide gap that separates workers and management in Saudi Arabia (Alshafi and Qassim, 2013).

Managers possess the complete authority in organizations and have the authority to provide directions to others. This can also cause issues for many organizations because it can give rise to a dictatorial culture (Lefdahl-Davis, et al., 2015). Therefore, the management of organizations in Saudi Arabia is a challenging task, e.g. in the case of delivery of the interventionthis would mean considering the emotions of others that may not fit naturally within a hierarchical or authoritarian approach.

Gender communication

As per the interpretation of Islam in Saudi Arabia gender segregation is regarded as essential in society. This implies that men and women who are not related to each other should not maintain any direct contact with each other. Even though women are allowed to work in organizations, they are not allowed to maintain direct contact with men. Mostly women in Saudi Arabia work in an all-female environment where they do not have to interact with men (Alhirz and Sajeev, 2015). That is why the popular places for women to work in Saudi Arabia are schools, women's universities, banks, medicine, social work and nursing (for women) or library work (Cassell and Blake, 2012).

It is also important to note that while women have to adhere to segregation in Saudi Arabia, the same is not true in respect of men. Men tend to work even in those organizations which are regarded as all women organizations (Elamin and Tlaiss, 2015). For example, the Princess Nora bint Abdul Rahman University (PNU) is an all women university but the senior most executive members include men as well. As a result, even senior women employees struggle to progress due to the lack of communication between men and women. Much of their communication thus takes place online or by email or phone, as direct communication is not possible in Saudi Arabia due to the culture disallowing it. This has, therefore, created a communication gap for women in organizations which affects their work performance in Saudi Arabia (Robertson, et al., 2013). This aspect of Saudi culture had potential implications for the current study as it may have affected how the intervention in this study were delivered to men.

Higher education

The higher education of Saudi Arabia has acquired a much centralised control rather than the liberal system it previously had in past decades, when around 30 years ago, the deans of colleges and heads of departments were elected. At present, these positions can only be filled by the Minister of Higher Education and/or the president of the university. In the past, the

universities modelled their academic system structure on the West, i.e. the system of crediting hours from the American and British yearly course system. By 1992, a royal decree was issued by the chairman of the council of higher education, the Prime Minister, instructing the higher education institutions of the nation to implement the courses/year system (Smart, 2005). As a whole, these changes commenced with the premise of directives and in due course snowballing into day-to-day management of the university. The implementation challenged the repeated declared guiding principle of independence and autonomy of the higher education in Saudi Arabia. Competition and self-determination amongst higher education institutions are considered indispensable for improvement (Smith and Abouammoh, 2013).

As Saudi Arabia's higher education system undergoes unparalleled transformation under a new crown prince being in charge, the efforts of Saudi Arabia's government for its higher education system have been recognised worldwide (Hamdan, 2015). These efforts include increasing the number of institutions during the past 10 years as well as recognising the highest number of students receiving overseas' scholarships. The changes are directed towards placing the Saudi education on a par with the best in the world. Currently, there are 30 private higher education institutions as well as 28 public universities (Clark, 2014). Transformation in the higher education system has been fuelled by the increase in the number of student population, the standards of higher education abroad and the changing demands of the job market.

Currently, the Saudi Ministry of Higher Education is focused on two dimensions of the quality issue. On the one hand, its goal is to increase the efficiency and effectiveness within each individual higher education provider. On the other hand, it is determined to create a strong and coherent national system of universities. In regard to the latter goal, the Ministry's aim is to create a network of complementary rather than competitive higher education providers. However, to create such as system, rather than leave it to the "open market", the Ministry has decided that the most appropriate manner in which to ensure high quality university outputs is to establish a framework for the systematic and official accreditation of all the Kingdom's academic institutions. Consequently, the National Commission for Assessment and Academic Accreditation (NCAAA) was established in 2004 with the primary tasks of conducting the academic accreditation of the Kingdom's universities and performing quality assurance tests across the range of Saudi institutes of higher education (Ibeaheem, Elawady and Ragmoun, 2018).

In support of these efforts, the Ministry also promulgated several initiatives aimed at raising the academic quality of the Kingdom's universities. These initiatives include, but are not limited to, projects that: focus on developing the expertise of faculty members, establish research centres excellence at universities, and support scientific societies. The Ministry has also moved to strengthen the role of the university in scientific research by establishing scientific research centres, science parks, and technology incubators at various universities across the country (Onsman, 2010). Moreover, in order to maintain any advances achieved in the development of the Saudi higher education system, the Ministry implemented the, 'Horizon Project' which sets forth a 25 year strategic plan for the future of higher education in the Kingdom.

However, Onsman's (2010) research on the barriers facing implementation of national higher education accreditation guidelines in the Kingdomsuggeststhere are several likely reasons why reform has been challenging. First, insufficient attention has been focused on the mechanics of the process. This is especially relevant if one considers the fact that this might be as much culturally as managerially based. Nonetheless, an essential facet of any plan to alter the way a university administers itself requires a basic understanding of the authorities is to assume a top-down approach to change. That is, change that begins with the leadership or senior management making strategic decisions that, trickle down to middle management who is tasked with administering the reforms, and ends finally with individual workers who responsible for operationalising the directives.

Emotional intelligence and higher education

Onsman (2010) discussed that one of the barriers facing the implementation of national higher education accreditation guidelines in the Kingdom of Saudi Arabia, is lack of leadership efficiency due to the type of hierarchical approach of management in Saudi higher education. According to Larin and Wessel, (2015), efficient leadership is identified as using emotion for communication of vision and to extract responses from their juniors and co-workers. It has been observed that managers having high EI always use positive emotions to develop their decision-making ability for betterment of firm's performance (Dabke, 2016). Many researchers have shown that effectiveness of leadership depends upon EI because it can play an important role in building strong relationships within and among the company, management and subordinates. Versatile leaders must have strong emotional beliefs regarding their opinion and values in their communication with sub ordinates (Maqbool, et al., 2017).

A growth in productivity and decline in employee turnover depends upon employee's EI and leadership style because they have a strong foundation in work relationships (Grunes, et al., 2014). Barbuto et al., (2014) declared that the relationships of employees with one another and with employers are very important for job satisfaction. The scope of employee engagement is much wider. Instead of disengaged employees, engaged employees have stronger relationships with their employer (Khalili, 2017), feeling emotionally attached to the company and fairly involved in their assignments (Markos and Sridevi, 2012). Furthermore, they feel energised by the success of firms and are ready to perform beyond their specific job requirements, satisfied workers are more productive, happier, energetic and creative to achieve the organisation's overall goals and vision (Føllesdal and Hagtvet, 2013).

Leaders can use this approachto construct strategies for re-engaging those feeling cut off from the organisation (Brinia et al., 2014). The combination of human resource management and operations management could apply training which creates a sense for employees that emotion is useful for better work performance (Holt and Marques, 2012). This is linked to why KSA leadership is deploying many training programs to improve overall higher education performance and achieve higher education goals of the KSA by 2030 (Ibeaheem, Elawady and Ragmoun, 2018).

Therefore, the current research can play a role by introducing an EI intervention to promote understanding as well as measure the implications of such programs among higher education providers for engaging the workforce. This could have the potential to increase the chances of successfully achieving KSA higher education goals as laid out in its 2030 vision. The research will also help out the leaders to take suitable decisions for effective work environment with the help of emotional intelligence. Additionally, Brinia, et al., (2014) indicated that the effectiveness of the EI training programmes is also affected by the local culture because local culture shapes the organisational culture and power in organizations. Walston, Al-Harbi and Al-Omar, (2008) declared that Arabic culture is much influenced by historical and religion factors and such deep-seated norms, values and attitudes may slow down technological change. Expectations, demands and constraints are originated by socio-cultural norms and values which have a long background in strong religious beliefs and traditions. Yitshaki (2012) identified other influences from social community and business that include dealing with the persistent attentionfrom clients, which can include social visits during working

hours and often without appointments accompanied byhigh expectations of achievement. Therefore, in a Saudi context, there is a clear need to consider the local culture of the country.

Research problem

Currently, organizations are enhancing their funds for Emotional Intelligence training to educate their employees regarding the significance of it and also facilitate them to enhance their EI skills (Mintz and Stoller, 2014). Study conducted by Parrish (2015) in higher education, found that emotional intelligence is highly relevant and essential requirement for academic leadership in higher education. Moreover, emotional intelligence traits related to empathy, inspiring and guiding others and responsibly managing oneself were most applicable for academic leadership. the Ministry aims to establish a clear Educational System that builds a Globally Competitive Knowledge-based Community In the beginning of 2016, the National Transformation Program 2020 was started by Ministry of Education's participation in the country's sectors that would lead towards the national vision of 2030 of Saudi Arabia (Alshuwaikhat, 2017). Improving performance and leadership is one of the major challenges in higher education which the government is spending considerable amount of money and efforts on education and training of higher education staff to successfully implement the National Higher Education Program (Onsman, 2010). Increasingly there is evidence to suggest that emotional intelligence is linked to effective leadership (Mintz and Stoller, 2014).). Therefore, this research can play role by introducing the EI intervention to promote understanding and measure implications of such programs among higher education which could make them able for engaging workforce. This leads toward success of KSA higher education goals to achieve their 2030 vision. The research will also help out the leaders to take suitable decisions for effective work environment with the help of emotional intelligence. However, there is a need to examine the efficiency of these programs to make more developments in EI skills programs (Kim and Kim, 2017). Although, Cavazotte, Moreno and Hickmann (2012) argued that the EI training programmes are much famous but the experimental researches are not very wide.

Consequently, there is a genuine requirement to examine EI training interventions to assess the outcomes of such intervention impacts on the level of EI, leadership style, self-efficacy and sense of power in Saudi Arabia.

Researcher engagement with the topic

I am an experienced Nursing lecturer as I possess over five years of experience in delivering lectures about nursing administration with Hail University, Saudi Arabia. I graduated with distinction and was subsequently appointed as a lecturer, playing my role in promoting the profession of nursing. Hail University is relatively new compared to other universities in the Kingdom, therefore, I was involved in working at leadership position in the university. This not only refined my leadership skills but also introduced me to conflict situations among the members of the same team. However, such conflicts were peacefully be resolved and would actually bring about better results when the members of the team were emotionally intelligent and did not gain any personal benefit from of such situations. This motivated me to work closely with the team and focus on minimizing personal bias and personal emotions and work as part of the team. It also enabled me to work towards maintaining a healthy collective working environment. My position within the team and in the university encouraged and motivated me to choose the topic of EI and review my position. This encouraged me to undertake the Master's level program at Salford University in Leadership and Management for Healthcare Practice. This is considered to be a relatively new program particularly with respect to the country I come from. At present the current working environment of departments in Saudi Arabia demands more emotionally intelligent people. Hence the reason that I have chosen this program.

Significance of the study

This study sets out to add to the body of knowledge by assessing the impact of emotional intelligence training on emotional intelligence level, leadership style, self-efficacy, and perception of power at work in an academic environment. As far as the researcher is aware, there is no published work relating to emotional intelligence training in the workplace in Saudi Arabia. Findings from this study when completed could lead to introducing emotional intelligence training across different staff levels especially in the Higher Education sector of Saudi Arabia for the purpose of improving staff efficiency and organisational outcomes.

Study aim and objectives

The aim of this study is to determine the effectiveness and/or impact of emotional intelligence training and education programme on emotional intelligence level, leadership style, self-efficacy, and perception of power amongst nursing college employees in a University in Saudi Arabia. Specifically, this study intends to:

Specific Objectives:

- To select a sample of nursing college employees in Hail University from its different branches from the north and south regions of the Hail Region and to allocate the samples to the intervention or control groups.
- To enlist a sample of not less 100 employees for each group from nursing college, Hail University in the Hail region of Saudi Arabia.
- To obtain baseline emotional intelligence assessments of employees (pre-intervention) as well as their leadership styles, self-efficacy, sense of power, and to repeat these assessments at three post-intervention time-points.
- To implement a specifically-planned intervention programme of emotional intelligence education for the intervention group.

Research questions

1. Is there variation between the four phases of measurement (pre-intervention T1, post-intervention T2, post-test T3, and post-test T4) in the intervention group in relation to the study variables (EI, leadership styles, self-efficacy and sense of power)?
2. Is there comparability in the pre-intervention (T1) measurements of emotional intelligence, leadership styles, self-efficacy and sense of power between employees from the control versus the intervention group?
3. Is there a significant difference in the post-test (T2) and the follow-up test (T3 and T4) measurements of emotional intelligence, leadership styles, self-efficacy and sense of power between employee in the control and intervention group?
4. Is there a significant difference between demographic categories in the study groups in relation to all variables in the study?

Overview of the Thesis

Chapter Two: This chapter discusses a review of the literature regarding emotional intelligence, i.e. background to the topic, the definitions and different EI models, what the literature says about developing EI and the significant of EI in the workplace.

Chapter Three: This chapter describes in detail the EI perspectives in the literature review of leadership styles, self-efficacy and sense of power.

Chapter Four: This section presents a detailed systematic literature review of the current information about emotional intelligence in two parts. The first is about the relationships between EI and leadership style, self-efficacy, and perception of power in the workplace. The second part will discuss the effects of emotional intelligence programmes and/or training interventions on levels of emotional intelligence. This chapter also explores gaps in knowledge for future directions.

Chapter Five: This chapter details the methodology of the current research, justifying the research design and presenting the study participants and location, data collection, outcome measures, and the educational programme.

Chapter Six: this chapter details the analysis of the study variables starting with checking the normality of the data, identifying the suitable non-parametric tests to measure the effect of the training in the intervention group and comparing it to the control group and illustrating relationships between the study variables.

Chapter Seven: This chapter presents a discussion of important findings of the study in the context of existing literature. Also the limitations and strengths of the study are described.

Chapter Eight: This is the final chapter of the thesis, providing the key messages of the thesis. It offers recommendations for future research and policy implications.

Chapter Two: Emotional intelligence

Introduction

This chapter will present details about the background of emotional intelligence, its concept and definitions as well as the different types of emotional intelligence models. This chapter will also discuss improving or developing emotional intelligence with relevance to the workplace.

Background

This major concept of Emotional Intelligence appeared in 1990 with the publication of Mayer and Salovey's work and has since gained much popularity especially in consultancy, management, psychological and human resource areas (Hess and Bacigalupo, 2013).Kotzé and Nel (2015) argued that the huge rise in popularity of EI is due to its scope and its links with success or failure in management ahead of competency, knowledge and experience. This study explores the concept of EI that it is the ability of identifying our own emotions as well as those of others and then the efficient management of emotions in interacting with others.

There are many differences in the definitions of EI and its components. EI is commonly judged on a few common aspects, including self-management, sensitivity of awareness, social awareness, self-efficacy and self-awareness. For effective leadership, EI is considered as a core feature because through this a leader or manager can control his/her own emotions as well as manage other team members' feelings and emotions in the workplace (Wouters, Brüll and Lopez-Zafra, 2017; Gelaidan, et al., 2018; Lam and O'Higgins, 2013).Additionally, Lam and O'Higgins (2013) raised important questions such as: 'What happens to those leaders who are not aware of this concept?''Are such leaders reliable and can they maintain management or leadership roles?' Wang, Xie and Cui, (2016) believe that the answers regarding these questions are linked to national cultural trends. Moreover, Hutchinson and Hurley, (2013) mention that the style of leadership is associated with the local and national cultural strengths of a country, so the efficiency of EI training interventions will be directly linked with the extent to which the less powerful participants in a society expect and accept the unequal distribution of power.

Defining emotional intelligence

Salovey and Mayer first used the term emotional intelligence (EI) in 1990 in order to define the human capability to recognise and regulate emotions. Prior theories of EI were derivatives of earlier concepts of social intelligence (Thorndike, 1920) and multiple intelligences (Gardner, 1983). These theories focused on interpersonal abilities that differ from the emotional aspect of EI; i.e. in Thorndike (1920) – the capability to recognise and handle men, women, boys, and girls; and to act wisely in human relations. Salovey and Mayer defined EI as a type of intelligence that entails the capability to observe one's own and other's feelings and emotions, distinguish them, and utilise this information to guide thoughts and actions (Salovey and Mayer, 1990). Nevertheless, this definition changed to the capability of perceiving emotion, integrating emotion to assist thoughts, understanding and controlling emotions, and promoting personal growth (Mayer and Salovey, 1997).

Other scholars (Bar-On, 1997; Goleman, 1995) also offered their own definitions of EI, but the scientific community has agreed to adopt the Salovey and Mayer definition (Ashkanasy and Daus, 2005). However, there is continuous debate as to the actual definition of EI despite this agreement. Two competing models have surfaced, jockeying for position on the nomological network (Mayer, Salovey, and Caruso, 2000). The first is called the ability model which characterised EI as an ability and classified it as intelligence. The second is the mixed model that conceptualises EI as a combination of cognitive, motivational, and affective constructs and is categorised as a more of a dispositional characteristic. Building upon the Mayer and Salovey model of EI, Petrides and Furnham (2001) conceptualised the two models as ability and mixed-model. Interestingly, as debate continues over whether EI is intelligence or a personality characteristic, there seems to be an amount of overlap between the two models. Conceivably, the biggest similarity between the two models is that EI consists of four hierarchal dimensions. Petrides and Furnham (2001) argued that the ability model of EI is based on four first order factors; perception, assimilation, understanding, and management of emotion. Researchers, however, have observed extensions of the four order factor conceptualisation which incorporated trait relevant elements in their assessment of EI (Ciarrochiet al., 2000).

Davies et al. (1998) utilised a factor analytic approach in quantitatively summarising the EI literature. He supported the Mayer and Salovey model of EI comprising emotional perception, understanding, management, and utilisation. Although there are debates about Davies et al.'s (1998) factor analysis, researchers have since accepted the four dimensional

approach (Mayer, Salovey, and Caruso, 2000; Petrides and Furnham, 2001; Wong and Law, 2002). The present study adopts the four-dimensional approach to investigate EI and maintains that EI can be valued as a higher order factor with four lower order factors: (1) perception of emotion in self and others; (2) assimilation of emotion to facilitate thought; (3) understanding of emotion, and (4) regulating and managing emotion in the self and others.

Over the previous decade, psychological research on emotional intelligence has gained traction as well as the gained prevalent attention that it has been heralded as an emerging psychological concept, including features in periodicals such as the Time Magazine and in bestselling books, i.e. Goleman (1995). In a nutshell, EI has become a trending topic worldwide but not without accompanying drawbacks. One such challenge involved opinions that EI is not scientifically based, by which many of these concepts were based on unfounded claims and assertions on the present understanding of emotional intelligence. For example, Goleman (1998) argued that emotional intelligence accounted for 85 to 90 per cent of performance in the upper levels of leadership, which obviously gained substantial criticisms from other scholars (Locke, 2005; Landy, 2005). Yet, in spite of disputed claims, a number of investigations on EI have demonstrated that it is robustly associated to criteria that are of interest to organisations. For example, Van Rooy and Viswesvaran (2004) illustrated that EI was critically linked to overall job performance; Sy et al. (2006) demonstrated that EI predicted employee performance and satisfaction taking into account personality factors; whilst Der Foo et al. (2004) in their study of negotiation tactics observed benefits gained objectively and effectively by teams whose members have higher EI levels.

Amongst all areas in emotional intelligence, leadership has occupied much interest in the research. George (2000) first linked leadership with emotional intelligence suggesting a conceptual model covering both concepts and it was not long before other authors followed suit. Daus and Harris (2003) demonstrated that EI predicted leadership effectiveness. Coetzee and Schaap (2004) argued that emotional intelligence associated with high levels of both transactional and transformational leadership. Collins (2001) further suggested that high EI leaders could objectively measure their own performance whilst those with low EI overrate theirs. Moreover, Landy (2005) – a known critic of emotional intelligence research – confirmed that EI demonstrates promise in predicting leadership effectiveness.

Models of emotional intelligence

There are various approaches related to emotional intelligence: the trait-based approach mixed model of emotional intelligence (Boyatzis, Goleman and Rhee, 2000) and ability-based approach (Schneider, 2013). This literature review further explores the emotional intelligence, its attributes, core concepts and measurement techniques. This also considers the view that different approaches to EI can be implemented according to requirements (Allen, 2014).

Ability EI model

Goleman, et al., (2013) argued that cognitive emotional ability is in fact ability emotional intelligence and it has been further suggested that ability-based EI belongs within the domain of cognitive capability (Porche, 2016). Every person has his/her own core abilities, which vary across individuals, so ability-based EI permits analysis of information according to variation in emotional attributes and relate these to wider psychological functioning (Mortiboys, 2012). Moreover, this model suggests a helpful means by which to differentiate cognitive abilities due to variety of social cultures and environments (Blount, 2017).

Mayer and Salovey constructed an intelligence ability model known as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) to measure and assess emotional intelligence as a type of cognitive intelligence (Mayer and Salovey, 1993, 1997 cited in Schneider, et al., 2013). Schneider, et al. (2013) also note in their research that the MSCEIT is really an emotion-based problem-solving test model and calculates EI elements like use of emotions, perception of emotions, understanding as well as management of emotions.

Mixed EI model

Goleman (1998) introduced the emotional intelligence competencies model, a mixed model of emotional intelligence, which refers to EI as learnt capabilities and is founded on the belief that every individual is born with some specific level of EI and it can be polished and increased through skilful training (Boyatzis, Goleman and Rhee, 2001; Goleman, 1998). It describes a broader range of skills and abilities which are categorized under the four major elements: relationship management, social awareness, self-management and self-awareness. Goleman defines EI as concerning identification and management of emotions in oneself and others, as a compartment of personal and social competencies that establishes how to manage oneself and how to manage relationships (Goleman, 2000). These abilities entail the capability

to discern one's own and others' emotions, as well as distinguish, and utilise emotion-related information to inform behaviour.

Goleman et al. (2002) suggested four key capabilities, including: (1) Self-awareness, which is the capability to understand our own emotions, limitations, and strengths; and include values and motives, emotional self-awareness, accurate self-assessment, and self-confidence. (2) Self-management, which is the capability to control troublesome emotions and guarantee control over them including self-control, achievement, initiative, adaptability, and optimism. (3) Social awareness, which is knowing other individual's emotions and point of view, including empathy, organisational awareness, and service. (4) Relationship management (social skill) that entails the capability to manage relationships with others, including inspirational leadership, developing others, influencing, communicating, being a change catalyst, team working, collaborating and conflict management. In higher education this model has been found more suitable for academic workplace practice (Parrish, 2015).

Trait emotional intelligence

Trait emotional intelligence refers to the emotion-related attributes and self-perceptions based on individuals' own reports which may be considered. Typical of everyday performance (Kirby, 2016). Trait EI measures are self-reported questionnaires and well-known scales include the Trait emotional intelligence questionnaire (TEIQue; Petrides, 2009) and the Schutte Self-Report Emotional Intelligence Test (SSEIT). This approach relies on self-response as the key indicator of emotions.

Zeidner and Matthews (2017) questioned whether trait EI is related to personality or the domain of intelligence. They highlighted that trait emotional intelligence is related to the concept of personality, as it denotes behavioural tendencies and self-reported capabilities. Fernández-Berrocal andExtremera (2016) argued that self-reports can exaggerate actual performance, so to reduce bias in this regard, Libbrecht et al. (2014) distinguished between ability EI and Trait EI. As per the viewpoint of Mao and Chen, (2016), both EI theories - ability EI and trait EI - are dependent upon faith that traditional intelligence is not enough to predict something like performance and adjustments. Emotional capabilities are considered as important in managing relationships in the workplace and dealing with emotions while facing obstacles or conflicts.Levels of EI may not be accurately assessed by the trait EI approach alone, as other factors can be influential in various circumstances. Trait EI is like a personality

trait, where various personality traits match various job needs (Petrides, 2010). Trait emotional intelligence is commonly effective in organizations, education and health sectors. When implemented in education, it is observed that low IQ students having better EI commonly score higher than other low IQ students who have low EI (Mikolajczak et al., 2009, Petrides, Frederickson and Furnham, 2004), which suggests the advantage conferred by using EI skills in the academic environment.

Table 1 contains a comparative summary of the three models of EI, namely the Ability Model of Salovey & Mayer; the Mixed Model by Goleman; and the Trait Model by Petrides.

Table 1:Comparison of the Ability, Mixed and Trait Models of Emotional Intelligence

Model	**Salovey & Mayer (1997)** **Four Branch Model of EI or** **Ability Model of EI**	**Goleman** **Theory of EI Performance**	**Petrides** **Emotional Efficacy**
Type	Ability	Mixed	Trait
Definition	EI encompasses the capability to think with and about emotions (Mayer et al., 2000); EI "refers to the ability to process emotion-laden information competently and to use it to guide cognitive activities like problem solving and to focus energy on required behaviors." Salovey, Mayer & Caruso 2002, p. 159	"Emotional intelligence– the ability to manage ourselves and our relationships effectively–consists of four fundamental capabilities: self-awareness, self-management, social awareness, and social skill. Each capability, in turn, is composed of specific sets of competencies. Goleman, 2000, p. 80	EI is a constellation of different traits "Trait EI (or trait emotional self-efficacy) is defined as a constellation of self-perceptions located at the lower levels of personality hierarchies" (Petrides, Pita, &Kokkinaki, 2007, p. 7).
Assessment type	Performance tests	Self-report questionnaire	Self-report personality-like questionnaire
Viewpoint	EI as a definite domain of intelligence	EI as a combination of emotional abilities, aspects of personality, motivation, and social aptitude	"Trait EI refers to a constellation of emotion-related self-perceptions and dispositions, assessed through self-report." Petrides& Furnham, 2003, p. 40.
Components	(1) Perceive emotions in self and others. (2) Use emotions in communication. (3) Understand emotions. (4) Manage emotion.	20 competencies grouped in 4 dimensions: (1) Self-awareness. (2) Self-management. (3) Social awareness. (4) Relationship management.	EI Traits (Petrides, 2010, p. 137) Adaptability Assertiveness Emotion expression Emotion management Emotion perception Emotion regulation Empathy

			Happiness Impulsiveness Optimism Relationship skills Self-esteem Self-motivation Social competence Stress management
Advantages	Rooted in psychological scientific studies. Components are hierarchically linked. Predictive ability. Little overlap with other theories/ models	Links EI with business world e.g. predictor of performance. Training programs developed for business	Predictive ability relating to high/low trait EI scores and academic behaviour. TEIQue translated in different languages and available for different audiences.
Disadvantages	MSCEITis complexto administer	Concepts from other theories (e.g. personality) overlap Organizational development and interventions focus too broad in scope; Do not seem to differ from known personality or competency models.	Does not effectively distinguish different behaviours in high/low trait EI.
Critique	The MSCEIT was met with criticism regarding its validity and scoring methods, however the test is used by different researchers on several participants and results were reliable. The test is presently regarded as the most promising evaluation of EI.	Self-report assessments drew criticism that measures are unreliable. Goleman's extraordinary claims of predictive the model's ability lack supportive data. Subsequent articles/books using Goleman's ideas did not produce rigorous empirical studies to substantiate claims.	Trait EI cannot be distinguished from the chief personality components.

Comparison of the EI Models

Notwithstanding the differences in viewpoints of EI held by the different researchers, the models share similarities as well. In a sense, Salovey and Mayer (1990; 2000; 2004) initiated the modern day debate and research on EI. Their basic premise is that emotions and intellectual activities mutually influence each other and that emotions are of value in cognitive activities (Goleman, 2000). This viewpoint is shared by Goleman (1998), Pertrides (2010), and Petrides et al. (2007). In addition, the researchers view EI as being able to recognize, assess, manage, and verbalize emotions with accuracy (Brackett, Rivers, Shiffman, Lerner, and Salovey, 2006).

Despite the uniform starting point the three models—ability, trait, and mixed—have unmistakable differences. The most striking difference is in the way that EI is described, for instance, Mayer et al. (2000) argue that EI is an ability similar to intellectual ability. With this view comes an accompanying way to measure EI which led the authors to develop a performance scale similar to intelligence tests. The Multifactor Emotional Intelligence Scale (MEIS) was later replaced with a newer version: the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT, Version 2.0), still using similar tasks to assess EI (Miao, Humphrey, and Qian, 2017). Although criticized as being difficult to score, the MSCEIT is regarded as one of the best tests of EI (Miao et al., 2017).

Although Goleman (1998) developed his views on EI after reading the original article by Salovey and Mayer (1990), he reworked the EI concept to include factors such as motivation and empathy. This approach led to Salovey and Mayer giving the label of mixed model to Goleman's work (Salovey et al., 2002). Bar-On (1997) followed Goleman's work by further adding personality-like elements including assertiveness, self-esteem and self-determination or independence. Since the addition of personality-like factors did not conform with the definition of Salovey and Mayer, these authors criticized the mixed model and maintained that their EI model centres on the relationship between cognitive and emotional elements of intelligence and is therefore not related to dimensions of personality (Mayer et al., 2000). Whereas Salovey and Mayer described EI as an intelligence type, Bar-On let his interest in personality factors and wellbeing influence his views of EI, while Goleman and Boyatzis included elements that were essential to work success (Druskat, Sala, and Mount, 2006). Not only did the basic premise of each EI model determine the nature of its measurement or instrument, it also

impacted on the type of training designed to further sharpen individual's EI, as can be seen from the various programmes available. It is clear that the term EI has a different meaning within the context of the different models, it was for this reason that the three approaches to EI were discussed in more detail in this research project.

Improving or developing emotional intelligence

Watkin (2000) stated, what distinguishes the top performers in a firm is not their high levels of traditional intelligence, but emotional intelligence is essential. EI questionnaires facilitate recognition of the need for development of particular areas through training and coaching. Spencer (2001) argued that according to literature reviews from the past 15 years, EI training, hiring and recruiting and performance can play an active role in increasing financial and economic value. Firms that use EI techniques for management promote supportive environments, i.e. they can use EI screening as a priority in making decisions and hire emotionally intelligent staff, therefore developing the use of EI within organizations at all levels (Watkins, 2000). This raises the question what happens if the staff are not emotionally intelligent?

The previous literature confirmed the advantages of EI. Moreover, the literature also highlights that EI vary from person to person. Boyatzis (1994) and Boyatzis and Van Oosten (2003) demonstrated that individuals can enhance their emotional intelligence and this development will remain with them for a long time. Bar-On (2006) also argued that socially and emotionally intelligent attitudes can be produced and developed through particular training, especially in adults. Many organizations sell these techniques through training packages, courses and workshops with commitments to increase EI. This raises the matter of measuring EI because development strategies vary between various models. As per the viewpoint of Petrides (2009), the core basis for distinguishing ability and trait emotional intelligence is measurement, furthermore training and development strategies can be better determined after accurate measurement. Following particular methods can help to solve this problem, firstly by concentrating on learning models and after that focusing on behavioural change to promote EI.

Attempts to modify EI should follow requirements highlighted through EI measurement and may involve mentoring and coaching (Jonker, 2009). To some extent, behavioural responses can be reformed.Turner(2004) andLaabs (1999) described that some soft skills, like

interpersonal communication, may also benefit from practice through EI training and particular EI demands can depend on the particular profession in question (Jonker, 2009).

Various emotional intelligence approaches are identified by Goleman (2002), as summarized in the four main dimensions of self-awareness and self-management (directed towards the intrapersonal side) and on the other hand social awareness and relationships (representing the interpersonal side). Figure 2 illustrates that these domains are interlinked with one another and have also a hierarchical approach, a person may develop according to stages which move toward self-management from self-awareness and then achieves social relationship through social awareness. Put simply, self-awareness supports both self-management and empathy and both permit effective and productive relationships. We can say that self-awareness is the basis underpinning the other two to achieve social relationships because it provides a way to identify emotions. Self-awareness is a base from which to construct emotionally intelligent leadership (Goleman et al., 2002, p. 30).

Figure 2: *The Hierarchical Model of Developing Emotional Intelligence (Goleman et al. 2002, p. 30).*

Laabs (1999) identifies that behavioral interventions are supported through practice and experience. However, this may be complex due to the countless emotions involved. It can take many months to identify the behaviour first and then permanently change it through experience and continuous practice (Alon and Higgins, 2005). It is essential to have suitable self-efficacy and resources to reduce any delay in this process and for taking the appropriate action to remove mistakes and finally learn from experience (Alon and Higgins, 2005). Boyatzis' concept of self-directed learning highlights a method by which a candidate can attain and develop emotional intelligence abilities through the help of a trusted person like a mentor or coach (Goleman et al, 2002). The responsibility of the mentor is to facilitate, motivate and help to develop EI skills by applying the steps outlined below in Figure 3:

Step 1: My I deal Self :	How do I want to be....? What do I desire from my work and life?
Step 2: My real self:	How do I respond ?
Step2: My Strengths:	Where do my own strength and my ideal on overlaps ?
Step 2: My gaps (mismatching point):	Am I and my ideal mismatched?
Step 3: My learning outline:	Develop my strength while reducing my difference.
Step 4: Experimenting:	Learn from my experience while facing new behaviour and environment.
Step 4 : Practice:	Practicing the new attitude building a new strategy according to this.

Figure 3 - S*teps for developing emotional intelligence by Goleman et al (2002).*

Cherniss and Goleman (2001) warn that many factors of maintenance should be implemented in training to gain long term advances in EI. This procedure commonly happens in stages and may be extended over a number of months or longer (Boyatzis et. al, 2000; Jonker, 2009;Boyatzis and Van Oosten, 2002). To ensure the financial value of any program development, it is important to concentrate on accurately identifying problems that will have a large impact on the organization (Spencer, 2001).

Regardless of the various approaches to EI—whether ability, trait or mixed model—any of these can be used to recognize areas of improvement for EI. Commonly, custom-made programs should be constructed to help ensure the achievement of specific missions or maintain continuous impact over time. It is true that EI may not just improve individual job and group performance, but it may create a positive environment for the whole organization.

The mixed model of EI as developed by Goleman and Boyatzis (2000),with its 17 capabilities to guide intervention, was adopted for the purposes of this study. The reasoning

behind this step is that the researcher is convinced that EI is made up of a variety emotional capabilities, skills and characteristics that work together in achieving superior outcomes in the workplace. These unique EI elements within a person are co-responsible for the particular workplace performance which distinguish excellent from average managers. This viewpoint has been inspired by the writings of Goleman and Boyatzis (2000). In addition, the Goleman model has been developed and extensively used in the realm of workplace performance which resonates with the current research. Furthermore, Goleman (1995) explicitly stated that EI can be learned, a view that gave rise to several EI training packages.

Additional reasonsthat contributed to the decision to use the Goleman and Boyatzis mixed model of EI include: first, these capabilities have been designed to aid development of EI skills in four categories, namely, self-awareness, self-management, social management and social relationships. Second, Goleman's model has capabilities linked to the development of aspects of leadership e.g. managing conflicts and leadership, teamwork and collaboration, which are included in the study variables and are directly concerned with workplace outcomes and effectiveness. Moreover, Alferaih (2015) proposed a conceptual model for job performance in Saudi Arabia based on Goleman's EI competency model. Therefore, this model will be adopted alongside other literature considerations for inclusion in the design of the intervention for this study.

Emotional intelligence in the workplace

Over the past 30 years, emotional intelligence has appeared as a new theory in the area of intelligence model that has been successfully utilised for innovative practices in education, psychology, and in the various facets of organisational development (Codier et al., 2009), emotional intelligence levels have been linked with organisational outcomes such as increased individual productivity, employee preservation, team efficiency, enhanced communication, collaboration, organisational loyalty, a range of psychological and physiological measures related to employee wellness, reduced exhaustion, and positive adaptation skills (Côté and Miners, 2006; Schutte et al., 2007; Codier et al., 2009; Joseph and Newman, 2010; Joseph et al., 2015). As a result, emotional intelligence is currently considered to be a widely accepted practitioner tool for hiring, training, leadership development, and team building across the business community (Joseph et al., 2015).

There has been a certain element of ambiguity that has been attributed to the concept of emotional intelligence over the past three decades. Many observers believe that this ambiguity, in terms of applying the tools of emotional intelligence in the workplace, stems from the emotional intelligence label having been historically applied to two almost distinct theoretical constructs (Joseph et al., 2015). The first of these constructs has been defined as the capability of implementing precise interpretation of emotions and the aptitude to utilise emotions and emotional awareness to develop thinking (Mayer, Roberts and Barsade, 2008). This approach emphasises emotional intelligence as ability – essentially a facet of intelligence (MacCann et al., 2014). The second definition of emotional intelligence is one which uses this idea as an umbrella term encompassing a constellation of personality traits, affect, and self-perceived capabilities as compared to real ability (Petrides and Furnham, 2001).

The growing competition amongst organisations poses the challenge of ensuring that capable leaders are assigned to positions that dictate the image of an organisation, both from within and outside.The conceptofemotionalintelligencecan be consideredasa toolfor leadership style enhancement (Connelly and Ruark, 2010; Sánchez-Núñez, Patti and Holzer, 2015). With organisations across the globe continuing to find new ways to try and enhance employee leadership skills and engagement in order to try and achieve competitive positions within various marketplaces, emotional intelligence continues to grow as an avenue of social research (Angelo et al., 2014). In addition, there is growing evidence linking employee emotion with effectiveness and performance, and this is again encouraging more active interest from many businesses in learning what a greater focus on EI can bring in terms of overall organisational performance (Goldring et al., 2015).

Assessing the impact of emotional intelligence on employee behaviour can strengthen its continued relevance to understanding and management of organisational staff emotions (Ashkanasy and Daus, 2005). Yet, organisations across the globe have been concerned with enhancing leadership skills to achieve competitive positions in the market and business, and staff emotions have been linked to their effectiveness and performance (Angelo *et al.*, 2014; Goldring et al., 2015). Other researchers have established correlations between emotional intelligence, leadership styles and work life quality (Adeyemo et al., 2015).

The literature has also thrown much light on effect of emotions on workplace. Hochschild (1983) and Goleman (1995) found that emotional intelligence is crucial for the successful management of workforce in the workplace. Furthermore, a study conducted with

respect to EI and leadership found out that both the workers and leaders tend to express themselves through their emotions at workplace. That is why EI is of paramount importance to be understood and it is imperative that the leadership possesses the competency in this regard (McColl-Kennedy and Anderson, 2002).

This shows that emotions cannot be prevented from being in play at workplace because emotions influence both the leaders and the workers in organizations. However, it is equally imperative to understand that such emotions can be understood and managed by the leadership in the best interests of the organization. The fact that the existence and arousal of emotions cannot be prevented only necessitates the understanding of emotional (Mayer, Salovey and Caruso, 2004; Lam and O'Higgins, 2012).

Carmeli (2003) observed that emotional intelligence is regarded as a major influence on the behaviours, positive attitudes, and results of employees in the workplace. That is why organizations these days requireEI as a necessary competence on the part of the leadership (Goleman, 1998; Dulewicz, Young and Dulewicz, 2005). Emotional intelligence is also regarded by organizations as more important than intellectual and technical intelligence for the position of leadership in an organization (Goleman, et al. 2002; Dulewicz, Young and Dulewicz, 2005; Duskat and Wolff, 2001).

The concept of emotional intelligence has broadly been defined and explained by researchers and academics. The prominent scholars on emotional intelligence include Mayer and Salovey (1997), Bar-on (1996) and Goleman (1995). However, it is imperative to understand that despite the fact that these authors defined the concept of emotional intelligence differently, their research is not contradictory but complimentary to each other. For example, Goleman (1995) described emotional intelligence as the ability of an individual to remain self-motivated, control impulses, regulate moods, delay gratification, manage and recognize feelings and to empathize. Furthermore, he defined emotional intelligence as the capacity of an individual to recognize his feelings and also that of others so that he could motivate himself and manage his emotions and that of his subordinates. Bar-on (1996) defined emotional intelligence in broader terms that involves abilities such as independence, self-awareness, empathy, social responsibility, interpersonal relationship, stress tolerance, problem solving, happiness, impulse control and optimism (Zeng and Miller, 2001).

There are many components into which EI has been divided. For example, Goleman (1998) divided the concept into five dimensions e.g. self-regulation, self-awareness, empathy, motivation, and social skills. Boyatzis (et al. 2000) divided the concept into four components: self-management, self-awareness, relationship management, and social awareness. The three components of Goleman's (1998) approach i.e. self-regulation, self-awareness, and motivation represent self-management skills whereas social and empathic skills are related to the ability of the person to manage their relationships. Boyatzis et al. (2000) described this as relationship management. These terms are explained further here.

Self-awareness is related to the knowledge about emotions about one's own self. It is the ability to acknowledge the feelings as soon as they take place. This is regarded as the crucial factor of EI (Goleman, 1996). Self-regulation on the other hand necessitates the reflective approach whereby feelings are taken into account before they are expressed by the individual. This means that the individual is liberated from being caged by his/her own feelings (Goleman, 2006). Motivation is the vital element of all leadership and is regarded as a vital competence of leadership (Goleman, 1998). Empathy refers to considering and understanding employees' feelings while arriving at decisions for the organization and its workforce (Goleman, 1998). Social skills represent the leaders' ability of consciously building and maintaining relationship by being aware that such relationships are essential for maintaining the productivity of the workforce (Goleman, 2006).

Chapter Three: Emotional intelligence perspectives

Introduction

This chapter will discuss EI with relevance to other aspects such as leadership style, self-efficacy and sense of power. Starting with defining leadership, describing its various styles and accounting for the relationship of these to EI, this chapter will also consider self-efficacy, sense of power and the need to study them in conjunction with EI.

Leadership

Leadership is known for its multidimensional aspects and this chapter aims to address and examine this concept as derived from literature. Leadership is delved into from its core concepts with mention of different approaches highlighting latest developments accrued in leadership on different fronts like transformational, positive, authentic and Ubuntu styles of leadership. Three dimensions of leadership style assessed in this study are considered: transformational, transactional and laissez-faire. As stated by Herbst and Maree (2008), this discussion begins with a definition of leadership as 'reflecting capability to get an objective reality as a result of a vision (Alon and Higgins, 2005).

Recent literature has defined leadership in a similar manner, e.g. a method that centres on shaping and affecting individuals in order to attain organisational goals (Griffin, 2012) and as an interpersonal process involving to affect other individuals towards a common objective (Hittet al.,2009); whilst Yukl (2010) summarised leadership as a course of utilising incentive and influence that encourages participation towards a group or organisation's road to success. Leadership effectiveness, moreover, is the extent to which leadership brings about an organisation's accomplishment (Kotze and Venter, 2011). For these definitions, leadership is a process whilst leadership effectiveness is a result as suggested by McColl-Kennedy and Anderson (2002). Leadership, therefore, is a rational course amongst leaders and followers that is moulded by the situation, with three fundamental components that include the leader's personality, the follower's perception of his/her leader, and the environment in which these interactions take place (Hittet al., 2009).

Transformational leadership (Antonakis and House, 2002) it is one of the most studied concepts in leadership and has revealed considerable validity in foretelling positive outcomes; i.e. leadership performance, effectiveness rating, follower satisfaction, and motivation (Judge and

Piccolo, 2004). The five dimensions of transformational leadership include (Bass and Avolio, 1997):

- Idealised influence pertains to the socialised personality of the leader and whether the leader is seen as confident and devoted to high order standards.
- Idealised influence refers to charismatic actions of a leader founded on morals, principles, and values.
- Individualised consideration, moreover, is the degree to which a leader focuses on the requirements of the followers by providing socio-economic support, which involves mentorship, frequent contact, encouragement for self-actualisation and empowerment.
- Inspirational motivation is the extent to which leaders encourage and demand followers to meet challenging goals and communicate optimism towards common objectives.
- Intellectual stimulation pertains to the degree by which a leader engages in behaviours that allow followers to test their theories, take risks, think ingeniously, and contribute rationally.

Further to the scope of transformational leadership, Bass and Avolio's full range model of leadership also considers three transactional leadership factors. These factors include contingent reward, active management-by-exception, and passive management-by-exception. Contingent reward pertains to the extent to which a leader operates in accordance to the emotional and economic standards of the follower by setting out comprehensible objectives and expectations, and rewards the follower for working towards them. Management-by-exception is enacted by leaders keenly observing followers for mistakes and correcting them or waiting for mistakes to be committed before correcting them. The third leadership style is laissez-faire leadership, which pertains to a non-existent leadership: laissez-faire leaders keep away from decision making, indecisive towards action, relinquish their authority, and are generally absent when they are needed. This style is theoretically comparable to the management-by-exception but this type of leadership is associated with the absence of action when correction is required.

According to Avolio (1999), leaders may adopt any of these styles in different environments and settings and by degrees; however, effective leaders are more closely associated with the transformational and the transactional leadership behaviour than the passive and ineffective non leadership behaviour. Albeit, numerous research studies have

demonstrated the effectiveness of transformational leadership style (Judge and Piccolo, 2004), there seems to be inadequate information regarding the precursors of these behaviours (Rubin *et al.*, 2005). Furthermore, transformational leadership has been associated with psychological traits such as agreeableness, openness, extraversion, and emotional stability (Bono and Judge, 2004); in addition to other individual differences such as moral reasoning (Turner *et al.*, 2002), secure attachment style (Popper et al., 2000), and need for power (Antonakis and House, 2002). Higher levels of intelligence have also been linked to transformational leadership (Atwater and Yammarino, 1993). Also, Parrish (2015) has found that while trait emotional intelligence for academic leadership is recognized as the ability of leaders to inspire others, trait EI is strongly linked with transformational leadership.

Styles associated with leadership

Research on leadership is gaining in popularity throughout the world. Many reviews have tried to conduct research to capture changes in the extant field and considered a range of styles. Literature is evidently of paramount interest through abundant of work on transformational and transactional leadership (Antonakis and House, 2002). Work carried out by Schriesheim, Wu and Scandura (2009) confirms that leadership has been of potent interest for research in the field of transformational and transactional leadership. The Multifactor Leadership Questionnaire (MLQ; Bass and Avolio, 1997) was identified as the most popularly employed instrument to measure transactional, transformational and laissez-faire leadership styles (Antonakis and House, 2002). Therefore the MLQ was selected as the instrument employed to support the current research work, e.g. to examine the presence of leadership styles among sample selected for the study. The following paragraph throws light on the styles and their allied categories.

Transformational leadership

According to Goleman (2005), leadership should be taken as an art of appealing somebody to lead in the direction of achieving a common goal. Devir, Eden, Avolio and Shamir (2002) took one step further and condensed the philosophy of transformational leadership into terms of winning the hearts and minds of followers by giving them confidence to give performance beyond expectations either implicitly or explicitly stated. Transformational leadership makes a great contribution to shaping the development of fundamental sets of beliefs and values among its ideological followers, influencing their attitudes and constituting a vital

building block of leadership as found in the case of market challenges modeled in Southern Africa (Vrba, 2007). Transformational leadership seeks to stimulate receptiveness and willingness within the domain of organizations, contributing to improved self-confidence at individual and group levels encouraging subordinates to accomplish and expand the task instead of merely focusing on survival (Gardener and Stough, 2002). By engaging followers in the sphere of employment, transformational leadership works to maximize production, and profits along with customer satisfaction (Zhu, Avolio and Walumbwa, 2009).

Literature is evident that transformational leaders gain more appreciation, trust and are liked more (Avolio and Bass, 2004). Whilst the transactional style of leadership mainly focuses on understanding individual needs, the transformational style of leadership concentrates on attainment of higher order objectives: mainly around organizational needs and survival in a dynamic environment.

Transactional leadership

Characterized by the use of extrinsic rewards to motivate employees (Chandan and Devi, 2014), the transactional style of leadership was introduced by Bass and Avolio (1997) adding to the transformational leadership style. It is worthwhile to mention that transactional leadership style is grounded in exchange and social learning theories. Transactional kinds of leadership are characterised by the bureaucratic mark of authority, strictly adhered to by the employees, legalized working modes with organizational stick (punishment) and carrot (rewards) policy to ensure its impact on behaviour and performance of employees (Burns, 1987). According to Bass (1990), transactional leadership involves reward on contingency basis, objective management (active) and subjective management (passive). Rewards granted on contingency basis finds their basis in the leader-follower relationship (Masi and Cooke, 2000). The 'Management-by-exception' approach actively deals with detection of lapses in organizational performance (Lai, 2011) and clearly delineates leadership attitudes in how it reacts to certain conditions (Lai, 2011; Bass and Avolio, 1990).

Laissez-faire

It represents a non-transactional style of leadership. This style of leadership is inactive and proves fragile in resolving problem issues. The laissez-faire approach is passive with no tangible involvement of leadership or instead evadingopportunities to intervene- when required the leader is not there (Avolio and Bass, 1992; Bass, 1997; Vrba, 2007).

Emotional intelligence and leadership

Emotional intelligence has a direct and powerful relationship with leadership abilities (Houghton et al., 2012). Seethapathy and Radhakrishnan (2016) discussed that in spite of experiences and trainings, the most efficient leaders are those who have the capabilities regarding EI. However, not all literatures fully support fully the relationship of EI with management or leadership attributes e.g. Preston, et al., (2015) argued that EI is not associated with leadership. Moreover, some researchers also point to the disadvantages of EI. For example, like Kotzé and Nel (2015) described 'tricky' management, where leaders are emotionally intelligent but ethically weak in their leadership style. Despite this, most researchers favour EI as Hwang, Feltz and Lee (2013) described that there is strong positive relation between EI and management. Along with the reviews on both sides of the EI picture, there is a realisation that EI can be learned for every level of management either junior or senior and is very rewarding for those leaders who want a continuous professional and personal development (Li, et al., 2016). Similar to other elements of traditional intelligence, EI also develops over with increasing age, (Chandana, 2012) and this is a significant element for emotional and social development. This helps those leaders who want a spurt in professional growth due to their learning discipline and who want greaterfulfilment in the workplace (Ramchunder and Martins, 2014), as well as increased meaningfulness at work and self-actualization (Thory, 2016). Accordingly, one purpose of this study is to see how leaders quickly develop or create productive work environments after EI training. This research aims to builds on the developing body of scholarly articles about emotional intelligence training. Furthermore, it also exhibits empirical and new ideas which further express why EI is recognised in the field of leadership.

Relationship between transformational style and EI

The current literature portrays links the concept of leadership with the concept of EI as paramount for understanding employees who have outstanding abilities and resultant organizational performance (Goleman, 1998). Goleman states that an individual is not able to exhibit sound leadership qualities without having a certain degree of EI even though he may have sound technical and intellectual abilities, rather effectiveness in leadership style increases when one acquires the ability to comprehend and exercise regulatory control on one's own and others' emotions (George, 2000). Research studies conducted on empirical lines have explained positive and significant relationships between leadership and EI and are considered here.

One study confirmed the correlation of transformational leadership with EI and that these complement oneanother in application (Naznin, 2013). It has been found that in transformational style, leaders display properties of emotional intelligence. Moreover, on investigating the relationship of leadership with EI at senior management level within an organization, findings have revealed that a strong relationship exists between constituent elements of EI and leadership (Gardner and Stough, 2002). In addition to the relationship of EI with two styles of leadership e.g. transformational and transactional, the study was able to confirm that leaders exhibiting transformational style successfully manage their own feelings as well as those of their subordinates, thus reflecting a lot of influence from emotional intelligence in their workplace environment (Gardner and Stough, 2002). This affirms the position that leaders who exhibit transformational nature in their style of leadership as compared to transactional are found to be emotionally intelligence to a greater extent. EI has therefore emerged as a strong predictor of having transformational style. This findings provided ample testimony in support of the claim made by Goleman, Boyatzis, and McKee (2002) that transformational leadership style is underpinned by elements contributed by EI. Exploratory research by Barling, Slater and Kelloway (2000) further considered the dimensions encompassing both styles of leadership e.g. Transactional and transformational and, their respective links with EI. The study consisted of a sample of sixty managers such as general managers, middle manager, supervisors and vice presidents and put forth its conclusion with the findings that employees perceive their leadership more transformational in behaviour when they exhibit high levels of EI compared with those displaying behaviours pertaining to a transactional leadership style.A study in the USA with eighty public employees examined the effects of EI on transformational leadership (Barbuto and Burbach, 2006) and revealed that EI contributes to effective leadership in organizational operational activity pointing to the benefits of EI.

Self-efficacy

Self-efficacy can be traced back to the work of Albert Bandura when he developed the social cognitive theory. Bandura (1994) defined self-efficacy as the beliefs of people about their potential for producing a desired level of performance which influences events affecting their lives. The cognitive aspect of self-efficacy is context specific as well as task specific (Bandura, 1977). Self-efficacy beliefs determine how people think, feel, motivate themselves and behave in particular circumstances. Bandura (1997) recommended that self-efficacy beliefs

represent the learned and active trait of a person and as such it is not a passive characteristic. DeMoulin (1993) studied self-efficacy and widened its definition to involve the interrelationship of confidence, motivation and well-being which promote quality performance and a degree of effectiveness towards particular tasks and situations of responsibility. Bandura (1994) also identified four ways whereby people develop self-efficacy. These include vicarious experience, mastery experience, physiological state, and social persuasion. Maddux (1995) argued for inclusion of two more factors: emotional states and imaginary experiences.

The most effective and prominent source of efficacy is mastery experience as it is based on the experience of an individual. Each successful completion of a task prepares a person for challenging tasks ahead. Heslin and Klehe (2006) argued that for the purpose of ensuring high level of success it is essential to break down challenging tasks into smaller parts to make it convenient to achieve. Self-efficacy generally starts to accrue in other situations once a complex task is achieved. Bandura (1986) had argued that even long term failures which an individual eventually overcomes also add to self-efficacy.

Vicarious experience represents developing self-efficacy by seeing other people succeeding through a situation in which an individual finds himself. However, self-efficacy can also be lowered when a person sees others failing in a similar situation. There are certain factors highlighted by Bandura (1986) which affect the vicarious experiences of a person with respect to self-efficacy e.g. little previous experience, uncertainty about one's own potential, and criteria of social evaluation.

Social persuasion includes verbal persuasion as well. It is also one of the processes to develop self-efficacy. This means that persuasion enables individuals to undertake a particular task and its achievement can help to foster self-efficacy. When people are persuaded to do a particular task and are told about the potential they possess, they are likely to put more effort into achieving the task at hand. However, it can also have a converse effect e.g. a person can lose self-efficacy if s/he is repeatedly told that s/he cannot do a particular thing and lacks the potential to do it.

An individual's own physiological state also helps in developing self-efficacy. Those who possess high levels of self-efficacy get energized to perform better whereas people with low level of self-efficacy may indulge in self-doubt (Bandura, 1994). Imaginary experiences represent the ability of a person to rehearse the task that is entrusted with him or her (Maddux,

1995). It involves two-fold visualization of the task. If the visualization is positive it can produce a positive result but if it is negative, then it can produce a negative result. Kazdin (1979) observed that an improvement in assertive behaviour can be found through imagery modelling for enhancing self-efficacy.

The emotional state represents the final stage of the model and influences the level of self-efficacy in an individual. A calm person is more self-efficacious than a distressed or aroused person (Maddux, 1995). The level of self-efficacy can be impacted by the magnitude of mood at a particular moment such as being highly positive as compared to being slightly positive. The level of self-efficacy is also influenced by the interpretation of developmental levels by a person. Bandura (1986) stated that if it is believed by a person that s/he possesses the potential for successfully deciding the outcomes through persistence and effort then performance increases and so does self-efficacy. The successful performances yields the feeling to achieve more in the times to come.

The significance of the concept of self-efficacy is further supported by the works of Covington (1984), Bandura (1992) and Dimmock and Hattie (1996). There are several positive attributes possessed by the people who have a strong sense of self-efficacy. This includes believing in their capabilities to undertake complex tasks, staying engaged with the task, identifying complex goals, and maintaining a strong level of communication as well as sustained efforts. Failures happen due to lack of sufficient knowledge or effort. People who continue to exert efforts produce accomplishments which can reduce their anxiety, stress and depression levels (Pajares and Schunk, 2001). However, people who have lower self-efficacy level perceive difficult tasks as carrying threat and tend to avoid them instead of conquering them, a person who has low self-efficacy level will not concentrate on the task but will focus on obstacles encountered in the tasks, adverse results and personal deficiencies in order to avoid undertaking the task (Bandura, 1994). People who have low self-efficacy levels tend to believe in the toughness of the task instead of their potential (Pajares and Schunk, 2001). Low levels of self-efficacy can often cause a sense of hopelessness and helplessness in an individual about his/her potential to cope with difficulties and challenges (Heslin and Klehe, 2006).

Mayer and Salovery (1997) broadened their definition about emotional intelligence by including the capacity of perceiving emotions, assimilating the feelings related to emotions, understanding the information about such emotions and managing them. In this renewed definition, emotional intelligence is presented as a concept comprising abilities which

areassociated with motivation. Therefore, this assessment helps in the development of a framework which identifies particular skills required for understanding and experiencing emotions in an adaptive manner, so that personal development and growth can be facilitated.

The term of "self-efficacy" from the social cognitive theory of Bandura (1977), highlights the significance of various elements which can influence and shape the behaviour of the individual. Duffy and Lent (2009) defined self-efficacy as the belief of an individual about his/her potential to perform particular actions or behaviours needed for achieving a specific objective. Schwarzer and Hallum (2008) and Jorde-Bloom (1986) argued that a person's self-efficacy will affect his/her anticipation level about specific event either pessimistically or optimistically and as a result dictate the person's behavioural or motivational intention. Therefore, those with higher self-efficacy level will ultimately set higher objectives and goals for themselves and display stronger commitment and determination for ultimate success.

Self-efficacy and emotional intelligence

A growing body of literature is suggesting that there exists a relationship between self-efficacy and emotional intelligence (Drew, 2006). Sutton and Wheatley (2003) recommended that if a teacher's efficacy faces substantial variation then it can result in part from variance in the emotional intelligence of the teacher. Chan (2004) observed that self-efficacy belief was highly influenced by emotional intelligence. Morris-Rothschild and Brassard (2006) observed that those who showed high levels of emotional intelligence were also able to cope with changing situations around them, whereas those who had lower levels of emotional intelligence found it difficult to deal with change.

Penrose et al. (2007) observed a significant relationship between self-efficacy and emotional intelligence. Salami (2007) also observed the same relationship with respect to teachers working in secondary schools in Southwest Nigeria. Chan (2008) conducted an investigation into the relationship between emotional intelligence and self-efficacy with respect to pre-service and in-service teachers in Hong Kong. His study looked at the relationship as a source of active and passive coping strategy. He found that those who were in strong control of their emotions were the ones who developed strong self-efficacy.

Emotional intelligence and perception of power

In the workplace, a person's view on power and status can affect how they work with other. Interest has stemmed from previous research by Schutte (2014), for future research to measure the impact of EI intervention on perceptions of personal sense of power after her research found that high levels of EI are significantly correlated to individual perceptions of sense of power. According to the literature, personal sense of power is defined as an individual's ability to influence other individuals (Copeland, 1994; French and Raven, 1959) making power a socially and relationally-linked concept. An individual's power, therefore, can only be understood in relation to another individual or group of individuals (Thibaut and Kelley, 1959). Furthermore, Anderson et al. (2012) conducted research on 1141 participants and found that the personal sense of power is coherent within social contexts. This suggests that personal perception of power exists and may be explored through four discrete levels of abstraction – in a specific momentary social setting, in a long-term dyadic relationship, in an established group, and in generalised form across an individual's relationships and group membership. Based on Anderson's work and explanations of sense of power, it is clear that a person's sense of their own power comes from their self-perceived ability to cause an effect (perceptions of own emotion) that can be linked to an interpersonal competency of EI, and through their social interactions with others in work or other contexts could be referred to as social awareness and social management components of EI. Thereforethe impact of an EI intervention impact was assessed in this study to see to what extent it could affect a person's sense of power, Anderson'sPersonal sense of Power Scale (PSP) is used to measure it in this study sample.

Moreover, emotional intelligence has turned out to be a fundamental model in the positive psychology approach to the workplace (Froman, 2010), as it may be a step towards developing inter- and intrapersonal workplace characteristics such as perception of power, which obviously supports thriving among employees (Gov.UK, 2017).

Chapter Four: Systematic review

Introduction

The goal of this study was to investigate the effectiveness of EI training on EI, leadership style, self-efficacy, and perception of power among nursing college employees in Saudi Arabia. Part One of this chapter contains a review of correlation studies involving EI and leadership style, self-efficacy, and sense of power. Studies show the relationships between EI and these variables, and their implications. Part Two of this chapter includes studies of interventions aimed at improving EI levels.

A literature review is a written assessment of what is already known or existing knowledge on a subject, with no prescribed methodology (Jesson et al., 2011). As an advanced literature review method, a systematic review, as defined by Petticrew and Roberts (2006), is a method that creates knowledge from the body of knowledge as answers to questions on what works and what does not. Thus, a systematic literature review has a question, rationale, search approach, inclusion and exclusion criteria, and a qualitative appraisal of the subject (Jesson et al., 2011). A thorough literature review provides findings from research papers, grants, proposals, books, theses and dissertations, policy and regulatory statements, and evidence-based healthcare practice (Garrard, 2011). Given the large number of scientific publications, information retrieval and analysis have become more crucial than ever. Within evidence-based practice, there is a hierarchy of the evidence for different types of research designs. This hierarchy includes systematic reviews at the top, and qualitative studies and opinion papers at the bottom (Bettany-Saltikov, 2012). A literature review is secondary research that collates, filters, and generates insights on the topic of interest. Aveyard (2010) defines the literature review as a research design by itself because the researcher can synthesise existing data to make sense of the evidence, using the review as a scientific tool for summarising, critically appraising and communicating the results of a large number of research articles (Spendlove, 2008). Consequently a significant amount of information is readily available to professionals, lawmakers, and the general public (Hemingway, 2009), as 20,000 journals publish over two million articles annually. The sheer volume of available information makes it difficult to navigate a given topic, hence the usefulness of the literature review approach that allows a researcher to verify, critically analyse, and summarise data from the literature (Spendlove, 2008).

Systematic search strategy

As Fink (2005) argues, a literature review is an unambiguous, systematic and reproducible method for categorising, synthesising, and assessing the existing body of knowledge presented by scholars, researchers, and practitioners. Different types of review differ in the degree to which they are systematic, according to each review's role and function, and each type may help by detailing what was done or not. The structure of the search strategy in a literature review allows for easy navigation and interpretation. A clear methodology makes it easier to analyse what the reviewer has or has not done. A focused question and explicit search strategy clarify the scope and terminology. Inclusion and exclusion criteria help readers recognise why some articles known to them have not been included (Booth et al., 2016). Graphical, textual, and tabular features are used to display information.

This discussion presents evidence on the relationship between emotional intelligence (EI) leadership style, self-efficacy, and perception of power, and the effect of training or education on the level of EI as shown in the beginning. The evidence is in two parts, which are: (1) correlation between leadership styles, self-efficacy, and sense of power and EI; and (2) education and training interventions to improve EI. This technique relies on the worldview that training programs could improve EI.

The process is guided by Brettle and Grant's (2004) systematic search strategy.The first component is a description of the search process for the systematic review, formulation of research questions, identification of articles, and a detailed presentation of the results. The second component is a critical appraisal of the articles. In this section, articles are critically assessed on the level of evidence and overall quality of studies based on their strengths and weaknesses. The last component evaluates evidence on whether or not EI training and education impact EI, and its correlation to leadership style, self-efficacy, and perception of power in workplace. The discussion also includes gaps in knowledge that researchers could address in future studies.

Methodology and search process

Systematic review protocol

The preliminary stage of this systematic review is the development of the protocol. This protocol is *a priori* declaration of the objectives and methods of the review (Torgerson, 2003). It offers adequate information to understand exactly how the systematic review was conducted. The review protocol, which is shown in Figure 4, predefines the focal point of the research by declaring the research question, establishes the search methods used for classifying important data, and lays down criteria for determining whether or not to include a research study into the systematic review. In the end, this protocol establishes the comprehensiveness of the systematic review, the extent to which the review is replicable, and the overall quality of the findings.

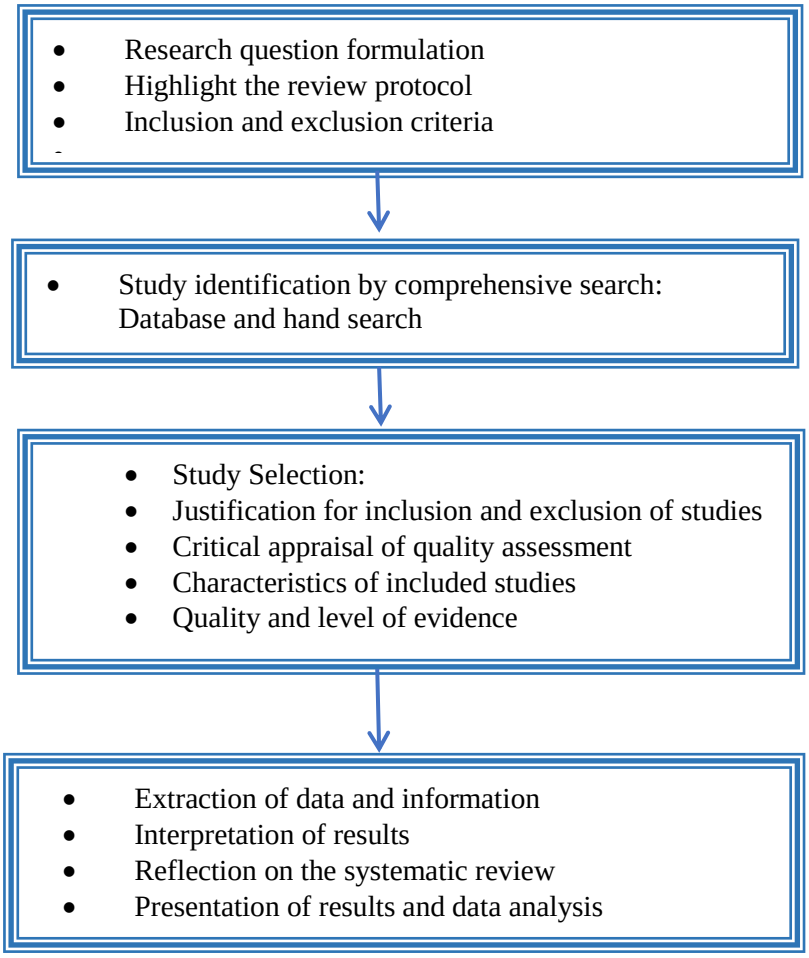

Figure 4*: The Systematic Review Process*

Part One: Correlation between EI and leadership Styles, self-efficacy, and sense of power

The goal of this section is to analyse the relationship between EI and the study variables; leadership style, self-efficacy, and sense of power. The review presents evidence from various workplace settings.

Review question

According to Bronson and Davis (2012), the review question provides a mechanism to steer the systematic review and establish how the search is conducted. Several criteria are considered for defining the review question, which includes the rationale for conducting the systematic review, constraints, and the significance of the question for practitioners and policymakers. In reviews that focus on correlations, the review is interested in identifying quantitative, observational, correlational, or mixed-methods research that measures the extent of correlation between the chosen variables. The question in this part is: **What is the relationship between EI, leadership style, self-efficacy and sense of power?** There is no intervention involved at this stage.

Identification of articles

The search was filtered by using keywords including EI, leadership styles, self-efficacy, sense of power, transformational leadership, transactional leadership, and laissez-faire leadership, with Boolean operators search criteria (see Table 2).The goal of this section is to highlight and discuss literature, which identifies the correlation between EI and the study variables leadership styles, self-efficacy, and sense of power, with a focus on the inclusion/exclusion criteria as explained in Table 3. Inclusion criteria include quantitative and mixed methods to capture the wider range of studies that investigate the relationship between EI and the other study variables. The emphasis of the review is to find evidence from correlational studies.

Search techniques for Part One

In the search stage, a search was carried out on the following databases: PubMed, Ovid, Google Scholar, PsychINFO, and SCOPUS. Keywords are combined by using “AND” and “OR” operators. The sensitivity of the search is increased by using truncations “*” or “$” or wildcards

"?" or "#" in the searches. Studies were reviewed to evaluate the relevance of the studies (see Table 2). If deemed relevant, full texts of the articles were retrieved.

Table 2: Part one Boolean operators and search criteria

Emotional Intelligence	**And** Self-efficacy	**And** Leadership style*	**And** Sense of power
OR EI*	**OR** Self-efficacy	**OR** Transformational style	**OR** Perception of power
OR Emotional intelligence ability		**OR** Transactional style	
OR Emotional intelligence competency		**OR** Laisse fair style	
OR Emotional intelligence trait		**OR** Leadership effectiveness	
		OR Leadership behavior*	
		OR Manager*	

Inclusion and exclusion criteria

One important practice is to develop clear, precise inclusion and exclusion criteria, adhering to these during the process of study selection. Overt inclusion and exclusion criteria facilitate future audit, which reflects on the quality of the systematic review (Morse and Richards, 2002). Inclusion and exclusion criteria were developed in order to assess which studies should be included in this systematic review and in order to ensure that only relevant papers to the topic under study was selected.

Studies were identified by the inclusion and exclusion criteria shown in Table 3 the final step of the search strategy was the hand-search through the reference lists of the relevant studies. References were considered for inclusion based on their titles. If deemed relevant, full texts of the literature were retrieved.

Inclusion criteria

Each article used in the study was required to meet all of the inclusion criteria, i.e. being focused on at least one of the variables stated in the review question; being published in English; and reporting the outcome of a correlation or relationship betweenEIand the other study variables.The restriction to items published in English was applied as the official academic and language in Saudi Arabia is the English language. In Saudi Arabia, researchers, and academic professionals use English as the main language of communication and scientific medical journals choose English as the main adopted language to publish findings of research conducted in Saudi Arabia.

Some issues were found when screening the studies in terms of the population. Heterogeneity within some of the samples from the reviewed studies means these may not be the same as the sample selected for this study, and they may not be directly comparable with each other as they vary from undergraduate students to employees, although the majority of the included studies sample were employees.

Exclusion criteria

Items which met any of the exclusion criteria were discarded. Articles published before 2000 were excludedto make sure that the most recent evidence was reported, as well as mixed method or quantitative studies where their outcome was not relevant to the study variable.

Table 3– Part one inclusion & exclusion criteria

Include studies that:	**Exclude studies that:**
Have been conducted in or after 2000	Have been performed before 2000
Use a quantitative or mixed-methods approach	Are policies, essays, review papers, and clinical reports
Are in English	Are not in English
Focus on the correlation between leadership styles, self-efficacy, and sense of power, and EI	Focus on other dimensions of EI(e.g. EI training or EI correlated with other variables not in the current study variables such as depression or stress and mental health)
Have subjects including adults in different workplace organisations or educational institutions	Include children (e.g. under-18).

Search results

An initial search through the databases mentioned above revealed a total of 692 studies. After looking at the year of publication, 128 studies were removed because they were published before the exclusion year. Further screening of titles and abstracts reveal studies with children as participants. These studies were removed (n=118) since children populations are not the focus of this research. A further 41 studies are removed because they are editorials, reviews, conference proceedings, or other articles that are not in English. 132 studies were removed due to duplication. Specifically, by applying the inclusion and exclusion criteria. The remaining 273 studies are assessed by reviewing the abstracts in greater detail. Another 167 papers are eliminated. Due to unavailability of full text, another 90 studies were removed not investigating correlation of the study variables. This could dilute the strength of the results of this study. Hence, these were removed, leaving 16 studies. In order to document papers searching outcomes for this systematic review, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was used as the internationally preferred method of reporting (Moher et al., 2009) (see Figure 5). The outcome of this screening is that out of the 692 potential articles initially identified, 676 were eliminated, thereby resulting in 16 studies for review.

Table 4 shows a summary of the number of studies retrieved from each database. From PubMed, seven relevant studies fulfil the criteria. Three studies are from Google Scholar, four studies are from Ovid, and none from PsychINFO or SCOPUS. Two papers are added from meta-analyses, thereby resulting in 16 assessed papers.

Table 4 – Part one summary of relevant studies retrieved from each database

Database	**#Identified**	**# Selected**
PubMed	416	7
Google Scholar	102	3
Ovid	172	4
PsycINFO	0	0
SCOPUS	0	0
Added from meta-analyses	2	2
Total	**692**	**16**

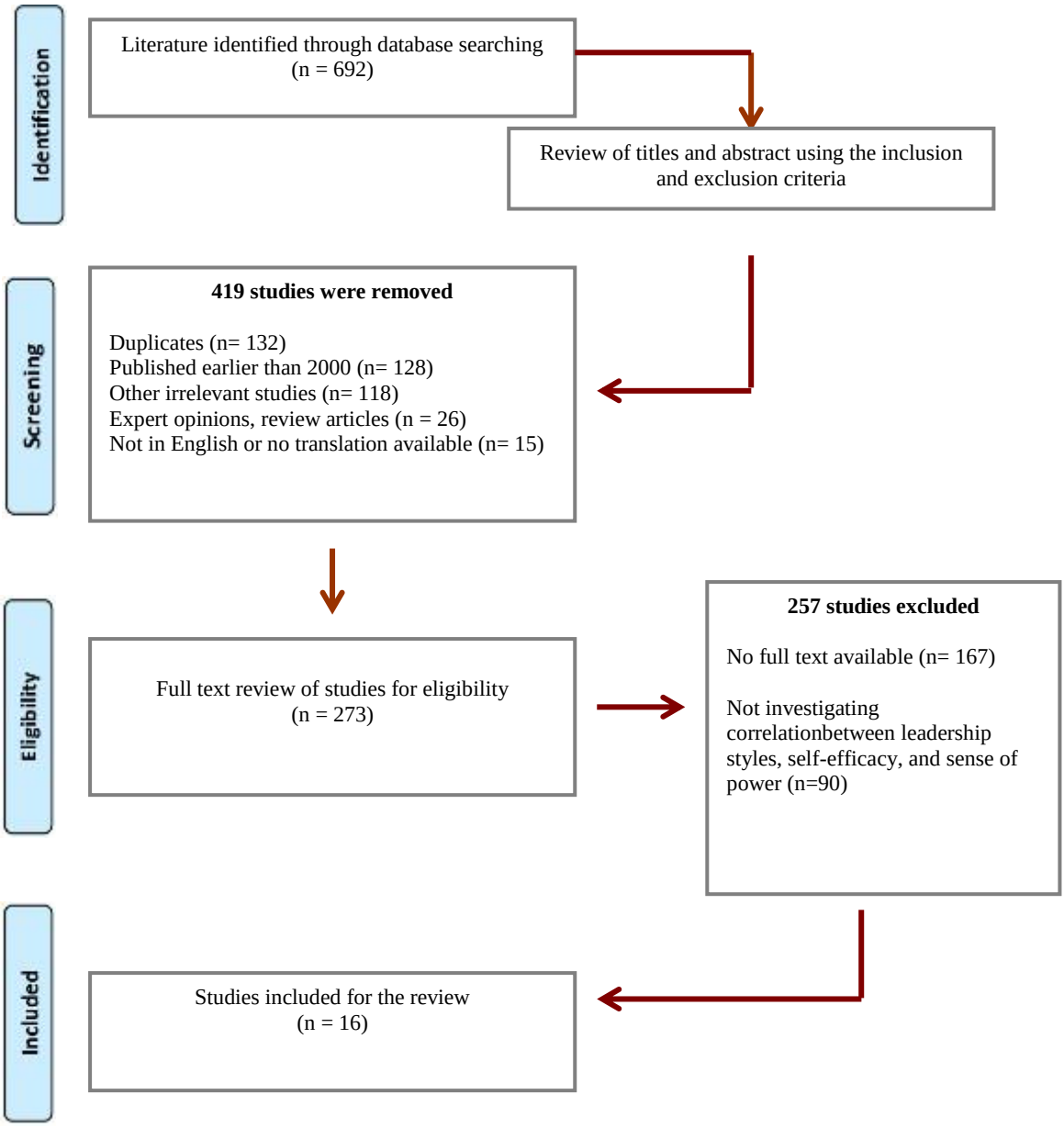

Figure 5 – *PRISMA Diagram part one*

Data extraction

Study data extraction helped the researcher to find out a relevant information about the included studies as well as reducing bias by the researchers (University of York and CRD, 2009; Elamin et al., 2009). A table of 16 studies was generated to extract information about the articles in Table 5 below.

Table 5: Part One Summary of Studies

Study	Title	Study Design	Tools	Sample	Summary of Results
1. Mills (2009)	"A Meta-Analysis of the Relationship Between Emotional Intelligence and Effective Leadership"	Literature review with meta-analysis	N/A	48 studies on EI and leadership effectiveness	Strong relationship between EI and leadership effectiveness
2. Harms and Credé (2010)	"Emotional Intelligence and Transformational and Transactional Leadership: A Meta-Analysis"	Literature review with meta-analysis	N/A	62 independent papers	There exists a positive relationship between EI and transformational leadership style. Transactional style shows no correlation between EI and management-by-exception.

					EI correlates negatively to Laissez-faire leadership.
3.Moghadam (2015) Iran	"An Investigation into the Relationship between Iranian High School EFL Teachers' Emotional Intelligence and their Self-efficacy"	Survey-Correlational study design	Bar-On EQ-i ; Teacher Sense of Efficacy Scale	100 Iranian teachers	Strong positive correlation between EI and self-efficacy; Strong positive correlation between age and self-efficacy; Male teachers have higher self-efficacy scores that their female counterparts.
4. Penrose et al. (2007) Australia	"Emotional Intelligence and Teacher Self-efficacy: The Contribution of Teacher Status and Length of Experience"	Distributed questionnaire-Correlational study design	Bar-On EQ-i; Reactions to Teaching Situations; Teacher Sense of Efficacy Scale.	211 government teachers	A significant moderate positive correlation relationship between emotional intelligence and teacher self-efficacy. No evidence for moderation effects of gender, age,

					experience, or status.
5.Gharetepeh et al. (2015) Iran	"Emotional intelligence as a predictor of self-efficacy among students with different levels of academic achievement at Kermanshah University of Medical Sciences"	Descriptive correlational study design	General Self-Efficacy Scale. Cyber-Shrink EI Self-evaluation questionnaire	129 public health school students	Overall EI score correlates significantly and predicts self-efficacy. Self-awareness, self-motivation and social consciousness play an effective role in self-efficacy.
6. Chan (2004) China.	"Perceived emotional intelligence and self-efficacy among	Descriptive correlational design	General Self-Efficacy Scale (GSE).	158 secondary school	Different components of EI are predictive of self-efficacy. Positive

	Chinese secondary school teachers in Hong Kong"		Schutte Self-Report Emotional Intelligence questionnaire (SSEIT). Self-Efficacy Toward Helping Scale (SETH).	teachers	regulation is a significant predictor in predicting self-efficacy; Empathetic sensitivity is useful for predicting self-efficacy towards helping others.
6. El-Sayed et al. (2014) Egypt	"Relationship between occupational stress, emotional intelligence, and self-efficacy among faculty members in faculty of nursing Zagazig University, Egypt"	Descriptive correlational study design	General Self-Efficacy Scale (GSE). Schutte Self-Report Emotional Intelligence questionnaire (SSEIT). Occupational Stress Scale	91 members from Faculty of Nursing	EI and self-efficacy correlate negatively to occupational stress within the faculty.

			(OSS) by Hassan and Hassan		
7. Nordin (2011) Malaysia	"The Influence of Emotional intelligence, Leadership Behaviour and Organizational Commitment on Organizational Readiness for Change in Higher Learning Institution"	Descriptive correlational design	Three Component Model of organisational commitment (Carnall, 1995); Multifactor Leadership Questionnaire (MLQ) by (Bass, 1999).	169 academic staff of University of Technology. Sample is selected from main and branch campuses in Malaysia.	Organizational commitment, EI, and transactional leadership behaviour are positively linked to organizational readiness for change.
8. Batool (2013)Pakistan	"Emotional Intelligence and Effective Leadership"	Descriptive correlational design	BarOn EQ-i assessment; leadership effectiveness by measured by multi-rater assessment (Boyatzis et al.,	50 health service staff and bankers	There is a positive and significant relationship between leadership style and EI. EI helps reduce stress, thereby improving performance and sense of achievement. This

			2001)		motivates subordinates within the organization.
10. Hur (2009) South Korea	"Optimizing managerial effectiveness through emotional intelligence"	Distributed questionnaire-Correlational study design	Wong and Law Emotional Intelligence Scale. Multifactor Leadership Questionnaire (MLQ).	859 employees in public sector organization	EI is positively correlated with transformational leadership style. Transformational leadership style is positively associated with leader effectiveness, team effectiveness.
11. Schutte andLoi (2014) Australia andUAS.	"Connections between Emotional Intelligence and Workplace Flourishing"	Correlational study design	Schutte Self-Report Emotional Intelligence questionnaire (SSEIT). Personal Sense of Power Scale (PSP)	319 working adults	Higher EI is significantly related to perceived power.
12.Palmer et al. (2001) Australia	"Emotional intelligence and effective	Correlational study design	Modified Trait Meta Mood Scale	43 participants	Idealized influence significantly correlates

	leadership"		TMMS by (Salovey et al., 1995). Multifactor Leadership Questionnaire (MLQ).	of Swinburne University	with emotional monitoring; Inspirational motivation correlates with emotional monitoring and emotional management; Individualised consideration correlates with emotional monitoring and management; There is a significant correlation between transactional leadership and emotional monitoring; Intellectual stimulation does not correlate with EI.
13. Mandell and Pherwani (2003) USA	"Relationship Between Emotional Intelligence And Transformational Leadership Style: A	Correlational study design	Multi-factor Leadership Questionnaire (MLQ); Bar-On	39 managers in business, medical, education,	There is a predictive relationship between transformational leadership style & EI;

	Gender Comparison"		Emotional Quotient Inventory (EQ-i)	financial and high-tech industries.	There is no correlation between gender and EI.
14. LebanandZulauf, (2004) USA	"Linking emotional intelligence abilities and transformational leadership styles"	Correlational study design	Multi-factor Leadership Questionnaire (MLQ) Form 5 X; Mayer-Salovey-Caruso Emotional Intelligence Ability Test (MSCEIT).	24 project managers from various industries in six organisations	EI and transformational style have positive correlations with: inspirational motivation, Individualized consideration and idealized influence. EI is negatively correlated to transactional style (Management-by-Exception. EI is negatively correlated to laissez-faire style.
15. Sivanathanand Fekken (2002)	"Emotional intelligence, moral reasoning and	Correlational study design	Bar-On EQ-i; Defining Issues Test; Multi-factor	58 university residence supervisors staff	EI is positively correlated to transformational style.

Canada	transformational leadership"		Leadership Questionnaire (MLQ) Form 5 X.	completed questionnaires to assess EI & 232 subordinates rated residence staff's leadership behaviours& effectiveness, 12 staff supervisors provided effectiveness ratings	
16. Ibrahim et al. (2017) KSA	"Predictors and correlations of emotional intelligence among medical students at King Abdul-Aziz University, Jeddah"	Correlational study design	Schutte Self-Report Emotional Intelligence (SSREI) scale, Authentic Leadership questionnaire (Northouse, 2015) General	540 Medical students in KSA	EI was positively associated with better academic performance, leadership capacity and self-efficacy. EI was negatively correlated to perceived-stress.

			Self-Efficacy Scale and the short version of Perceived Stress Scale (PSS-4)Warttig SL et.al, 2013.		Gender (female) and increasing age were predictors of high EI. Recommendation for EI intervention in medical students to improve EI skills, leadership capacity and self-efficacy in medical faculty staff in KSA.

Key: N/A – not applicable

Critical appraisal of studies

Hierarchy of evidence

There is no standard method for evidence-based research: factors and subject knowledge should be evaluated as part of the decision-making process about the study (Kelly, 2012). However, high-quality research evidence enables researchers to identify the best use of evidence in practice (Facchiano and Hoffman Snyder, 2012). In general, the strengths and weaknesses in a study reflect the quality of evidence produced (Facchiano and Hoffman Snyder, 2012). Such evaluations are vital in translating research into practice (Hill and Spittlehouse, 2001). Critical evaluation is the procedure of systematically assessing evidence obtained through research to determine its validity, rigour and relevance to clinical practice (Hill and Spittlehouse, 2001).There are levels of evidence that identify the quality or strength of evidence generated from a study. For this review, the recommendations from the Joanna Briggs Institute for Evidence Based Nursing and Midwifery were utilised to assess the methodological quality of each study (The Joanna Briggs Institute, 2002). Based on the recommendations, the levels of effectiveness are discussed in Table 6. The best quality of evidence is drawn from Level I which corresponds to the best designs, while Level VI studies are the least recommended designs. In this review,evidence level of V a descriptive of a correlation studies and a systematic review of a correlation studies type IV were included, while RCT at level II and quasi-experimental at level III were not included in this review.

Table 6: Levels of evidence by Joanna Briggs institute

Level	**Description**
I	Data obtained through a systematical review of type II studies.
II	A randomised controlled trial Randomized Controlled Trial (RCT) studies
III	Data obtained from well-designed controlled trials, rather than from randomized, quasi-experimental.
IV	Data obtained from comparative studies such as cohort studies, case control studies from more than one research group or center.
V	Data obtained via a single descriptive or qualitative study
VI	Data obtained from the opinion of influential experts, based on their clinical experience, or via the reports of expert committees.

Based on these criteria, the quality of evidence is determined in part by the research design. This assumes that even the strongest design could be inadequately executed. The strongest evidence was obtained through randomised controlled trials and pseudo-randomised controlled trials, or quasi-experimental studies. Although the randomised controlled trials are generally known to generate strong evidence, it is important to note that not all randomised controlled trials are of the same quality (University of York and CRD, 2009).At first glance, the designated level of evidence signifies that these are average-level quality research studies. However, this idea may be controversial as authors such as Burns et al. (2011) argue that the levels of evidence do not always guarantee the quality of the study. They argue that readers may not assume that Level II evidence is always the best choice or appropriate for a particular research question. Moreover, for this literature review, the levels of evidence are considered secondary to the need for seeking out studies showing correlation rather than cause and effect. The variables to take into account are EI, which is examined with leadership style, self-efficacy, and perception of power. In these cases, randomised controlled trials are not useful.

There are a number of instruments that can be used to evaluate the quality of research (Brink and Louw, 2012; Creswell, 2013; Hawker, Payne, Kerr, Hardey and Powell, 2002; Higgins and Green, 2008). The assessment tool developed by Hawker et al. (2002), which is one such evaluation instrument, was selected for use in this study due to its ability to allow researchers to quantify and measure the quality of reviewed reports. Furthermore, when compared with other evaluation instruments, the Hawker tool was much more efficient. For instance, in comparison with the rigorous Critical Appraisal Skills Programme (CASP), which has special forms for each research design (CASP UK, 2013); the Hawker tool uses only one format for all studies regardless of design. This increases consistency in appraisal. Hawker tool involves the assessment of following nine categories: abstract and title, introduction and aims, methods and data, sampling, data analysis, ethics and bias, findings, transferability, implications and usefulness (Hawker et al., 2002) (See Appendix 1).

The assessment produced is based on a point system for each category. The point system ranges from 1 to 4. A score of 1, indicates a substandard assessment. Conversely, a score of 4 indicates a high assessment. The total maximum score possible would be a score of 36. An example of how an article is appraised using the Hawker tool is demonstrated seen in Appendix (2). Each included study was awarded a total score that was classified under one of the following categories: very poor (0-10 points), poor (11-20 points), fair (21-30 points) and

good (31-36 points). Table 7 shows the level of evidence and quality for each study reviewed according to the Joanna Briggs Institute for Evidence-based Nursing and Midwifery, and the Hawker tool.

Table 7: Part one quality score &level of evidence according to Briggs and Hawker

Study	Quality Score (out of 36 points)	Level of Evidence
1) Mills (2009)	35 (Good)	IV
2) Harms and Credé (2010)	35 (Good)	IV
3) Moghadam (2015)	30 (Fair)	V
4) Penrose et al. (2007)	32 (Good)	V
5) Gharetepehet al. (2015)	25 (Fair)	V
6) Chan (2004)	21 (Fair)	V
7) El-Sayed et al. (2014)	24 (Fair)	V
8) Nordin (2011)	21 (Fair)	V
9) Batool (2013)	21 (Fair)	V
10) Hur (2009)	33(Good)	V
11) Schutte andLoi (2014)	35 (Good)	V
12) Palmer et al. (2001)	35 (Good)	V
13) Mandell andPherwani (2003)	35 (Good)	V
14) Lebanand Zulauf (2004)	35 (Good)	V
15) SivanathanandFekken (2002)	35 (Good)	V
16) Ibrahim et al. (2017)	34 (Good)	V

Following the assessment of the studies by utilising the Hawker (2002) checklist, assesses the overall quality of a study by assigning a numerical score for each vital component of the study as shown in the above table. The majority of the 16 studies have an evidence level of V a descriptive of a correlation studies (Moghadam, 2015; Penrose et al., 2007; Gharetepeh et al., 2015; Chan, 2003; El-Sayed et al., 2014; Nordin, 2011; Batool, 2013; Hur, 2009 Palmer et al., 2001; Mandell andPherwani, 2003; Leban and Zulauf, 2004; Sivanathan andFekken, 2002 and Ibrahim et al. (2017). The remaining studies (Mills, 2009; Harms and Credé, 2010) are Level IV as meta-analyses of more than correlation study.Furthermore, the studies have a quality score ranging from Good for ten studies (See Table 7), to Fair; for the other six studies.An example of appraising an article using Hawker's Assessment Tool can be seen in Appendix 2.

Critiquing framework

The literature is analysed and critiqued to identify the relations and connection between EI and the study variables leadership style, self-efficacy, and sense of power, by using Hawker tool to assess the quality of available literature as it shown in the above table (6). The studies are further discussed within four key areas: study aims, sample, method, and results, as shown below:

Study aims

According to Grove et al. (2015), clear and concise aims and objectives are important in directing the study towards the methodology and interpretation of results. The 16 studies in this section are chosen for their aims in showing a correlation between EI and the three variables: leadership styles, self-efficacy, and sense of power.

The study by Ibrahim et al. (2017) aimed to examine EI and leadership capacity and self-efficacy. Two of the studies (Mills, 2009; Harms and Credé, 2010) were literature reviews with meta-analyses. They examined the correlation between EI and leadership styles. Moreover, another study (Hur, 2009) was a component of the meta-analyses, with the similar aims, as expected.

Six of the studies (Nordin, 2011; Leban and Zulauf, 2004: Batool, 2013; Palmer et al., 2001; Mandell and Pherwani, 2003; Sivanathan and Fekken, 2002) also stated their aims as examining the correlation between leadership styles. Five studies (Moghadam, 2015; Penrose et al., 2007; Gharetepeh et al., 2015; Chan, 2003; El-Sayed et al., 2014;) examine the correlation between EI and self-efficacy, another of the variables. Their aims were clear and obvious.

One study (Schutte andLoi, 2014) showed a positive correlation between EI level and perceived power. The recommendation for future research is to examine the impact of EI training on sense of power.

In summary, these studies are of good quality concerning their aims and objectives. These are relevant to this study, which aspires to examine any correlation between EI and self-efficacy and leadership style.

Sample

The samples include two major groups, namely teachers or academic staff (Moghadam, 2015; Penrose et al., 2007; Chan, 2003; El-Sayed et al., 2014; Nordin, 2011) and employees in the public and/or private sectors (Batool, 2013; Hur, 2009; Palmer et al. 2001, Mandell andPherwani, 2003; LebanandZulauf, 2004, and SivanathanandFekken, 2002). Gharetepeh et al. (2015) and Ibrahim et al. (2017) have students as participants. Regarding the two meta-analyses (Mills, 2009; and Harms and Credé, 2010), the samples are from individual component studies and as many of the participants are employees, these studies are relevant for the workplace.Also, there is some overlap between the meta-analyses in regard of the type of included studies for both analyses e.g. in Harms and Credé (2010) most of the analysed studies were obtained from known databases e.g. PsycINFO; PubMed, while over half of the studies included in Mills' study were in the form of unpublished dissertations (48%) and theses (8%). Also the number of studies included in both meta-analyses was a total of 48 articles in Mills, (2009) and 62 studies in Harms and Credé (2010). However, the material from both is still relevant in the sense that the reviewed studies review the standard variables as stated in the aims of the study.

Methods

The majority of the studies (Moghadam, 2015; Penrose et al., 2007; Gharetepeh et al., 2015; Chan, 2003; El-Sayed et al., 2014; Nordin, 2011; Batool, 2013; Hur, 2009, Schutte andLoi, 2014, Ibrahim et al. 2017) used a descriptive correlation method, such as observation without a control group. However, all of the studies implemented a quantitative approach as their method of data collection.

Two of the studies (Mills, 2009; Harms andCredé, 2010) were meta-analyses. The data gathered from a well-designed and well-executed meta-analysis study are among the level IV evidence in research (Bowling and Ebrahim, 2005). This methodology allows the authors to integrate and synthesise current empirical studies on the topic of EI and its relationship to leadership in workplaces. One of the strengths of this method is that it allowed the authors to combine to accumulate the findings scientifically and permit generalisability. The two studies carefully analyse similarities and differences of methodologies and findings across the many studies they have included.

However, one limitation of using meta-analyses is publication bias. Fortunately, the two studies (Mills, 2009; Harms and Credé, 2010) took this into account. In both reviews, bias was minimised in such a way that the literature relating to their respective research questions was obtained carefully, including detailed descriptions of the databases accessed, the search engines utilised, and the search terms used. According to Phillips (2004), both published and unpublished research papers should be identified and retrieved if possible to address the issue of publication bias. This is a phenomenon by which the publication of a result from a particular study is based on the direction, positive or negative, or significance of the findings. Publication bias arising from reviewing published literature could result in findings that are misleading (Prasad, 2013). Mills' meta-analysis used a considerable number of unpublished theses, which should have lessened the risk of publication bias.However, one study by Hur (2009) was a component of the Harms and Credé (2010) meta-analysis.

Interestingly, each study deploys a different number and combination of rating scales. Also, some scales in different papers have similar, but slightly different labels. On checking the original proponents, it is determined that some researchers are referring to the same tool and add or take out a variable. Some scales are adapted, including the one by Chan (2004). Scales are also adapted for country, language, and profession, such as teachers.

In summary, the studies are quantitative and observational; all involve one or more rating scales and some scales are modifications of existing scales. The meta-analyses include unpublished dissertations, which is good practice for reducing publication bias. However, there is considerable overlap between the two meta-analyses and their component dissertations.

Results from the evidence

This review intended to explore the current evidence on the relationship between EI and three variables: leadership style, self-efficacy, and perception of power.

EI and leadership style

Batool (2013) shows a positive and significant relationship between leadership style and EI. EI helps reduce stress, thereby improving performance and sense of achievement. Nordin (2011) argue that organizational commitment, EI, and transactional leadership behaviour are positively linked with organizational readiness for change (ρ=0.05); this motivates subordinates within the organization. Harms and Credé (2010) argue that there exists a positive relationship between EI and transformational leadership style. In the study, they found that

transactional style shows no correlation to EI, while EI correlates negatively with laissez-faire leadership. Hur (2009) shows that EI is positively correlated with transformational leadership style ($p<0.001$), and transformational leadership style is positively associated with leader effectiveness, team effectiveness and service climate ($p<0.001$). Schutte and Loi (2014) conceptualise EI as a source of workplace motivation with programmes for promoting employee wellbeing, engagement and their sense of power ($p<0.001$). Palmer et al. (2001) found that idealized influence significantly correlates with emotional monitoring ($p<0.01$), inspirational motivation correlates with emotional monitoring and emotional management ($p<0.01$; $p<0.05$), and individualised consideration correlates with emotional monitoring and management ($p<0.01$; $p<0.05$). The study found a significant correlation between transactional leadership and emotional monitoring ($p<0.01$), while intellectual stimulation did not correlate with EI.

Mandell andPherwani (2003) found a predictive relationship between transformational leadership style and EI ($p < 0.05$); however, there is no correlation between gender and EI ($p > 0.05$). Lebana and Zulauf (2004) found that EI and transformational are positively correlated with: inspirational motivation ($p<0.05$), individualized consideration ($p<0.05$) and idealized influence ($p<0.05$). The study also concludes that EI is negatively correlated to transactional style (Management-by-Exception ($p<0.05$), and EI is negatively correlated to laissez-faire leadership. Sivanathan and Fekken (2002) found that EI is positively correlated with transformational style (*$p<0.01$).*

The Management Leadership Questionnaire (MLQ) is a widely usedtool for measurement and analysis of leadership development as shown by 6 of the 16 studies (Nordin, 2011; Hur, 2009; Palmer et al. 2001; Mandell and Pherwani, 2003; Leban and Zulauf, 2004; Sivanathan and Fekken, 2002). Leadership behaviour, motivation, intellectual stimulation, contingent rewards, management-by-exception, and laissez-faire are areas covered by MLQ. The use of these tools is described in the following sections, which provide the basis for using these techniques for the study design to examine the relationship between EI and leadership practice in Saudi Arabia.

There are many theories about leadership style by different researchers, with some styles regarded as more dysfunctional than others. A full review of these is outside the scope of this study, but it is worth touching on a few principles. For instance, “transformational” leadership is broadly seen as being favourable in the modern workplace (Groves, McEnrue and Shen,

2008). “Transactional” leadership is seen as focusing more on compelling employees to obey and conform rather than inspiring them (Nordin, 2011). “Laissez-faire” leadership is also often considered alongside the other two styles (LebanandZulauf, 2004), but it is not touched upon in the selected studies.

Nine out of the sixteen studies (Mills, 2009; Harms and Credé, 2010; Hur, 2009; Nordin, 2011; Leban and Zulauf, 2004: Batool, 2013; Palmer et al., 2001; Mandell and Pherwani, 2003; Sivanathan and Fekken, 2002) deal with EI and leadership styles. Transformational leadership style is the style associated with leader effectiveness and team effectiveness. Transactional leadership style amongst leaders correlates positively with organisational readiness for change. There is no evidence in support of laissez faire leadership style. The analysis shows a link between EI and transformational leadership. With the studies showing a correlation, as indicated by the p values, and confirming EI and transformational leadership go together (Mills, 2009; Harms and Credé, 2010; Hur, 2009).

It should be noted that regarding the two meta-analyses (Mills, 2009; Harms and Credé, 2010), there is some overlap between their component studies. Hence, it may be unwise to present Mills (2009) and Harms and Credé (2010) as two separate critiques. A point to note is that Harms and Credé (2010) did not refer to Mills (2009).

Thus, the link between EI and leadership style in the evidence presented above suggests the potential for leadership development. The implication is to use intervention methods to influence leadership styles, especially transformational leadership, in this study.

EI and self-efficacy

Moghadam (2015) show a strong positive correlation between EI and self-efficacy ($p<0.05$), and also a strong positive correlation between age and self-efficacy ($p=0.01$). The finding that male teachers have higher self-efficacy scores that their female counterparts ($p<0.01$). Penrose et al. (2007) found a significant moderate positive relationship between EI and teacher self-efficacy ($p<0.01$). Gharetepehet al. (2015) discovered that high academic achievers score higher in self-efficacy and EI, with overall EI score predicting self-efficacy ($p<0.001$), and self-awareness, self-motivation, and social consciousness playing an effective role in self-efficacy ($p<0.001$ for the overall model). Ibrahim et al. (2017) also found out that EI is strongly associated with self- efficacy and predicts it ($p<0.001$). Chan (2004) found that positive regulation is a significant predictor in predicting self-efficacy ($p<0.05$), and

empathetic sensitivity is useful for predicting self-efficacy in helping others ($p<0.001$). El-Sayed et al. (2014) argue that EI and self-efficacy both correlate negatively with occupational stress in a university faculty ($p = < 0.05$). Mills (2009) recommend using EI as a component of leadership effectiveness based on the strong relationship between EI and leadership effectiveness ($r =0.380$) in the literature review. 6 of the 16 studies (Moghadam, 2015; Penrose et al., 2007; Gharetepeh et al., 2015; Chan, 2003; El-Sayed et al., 2014) provide evidence for the relationship between EI and self-efficacy.

In the workplace, two studies (Moghadam, 2015; Penrose et al., 2007) demonstrate a strong positive relationship between EI and self-efficacy, specifically amongst teachers. Teachers with higher degrees of EI have high capabilities of self-efficacy, and vice versa, while those with lower emotional intelligence have lower self-efficacy. This is because individuals with improved EI have more positive beliefs about their capabilities resulting in better academic and social success.

One study (Gharetepeh et al., 2015) shows a weaker correlation between emotional intelligence and self-efficacy. EI is connected related in a positive way to self-efficacy, and increasing EI could cause in increasing self-efficacy. Chan (2004) and Gharetepeh et al. (2015) shows a strong correlation between EI and self-efficacy.

EI and perception of sense of power

Only one study by Schutte and Loi (2014) found that higher EI is significantly related to perceived power ($p<0.01$). The evidence shows that EI conceptualised as a source of workplace motivation provides promising applications for workplace programmes in promoting employee wellbeing and engagement. Schutte and Loi (2014) recommended future studies to take into account the implications of EI training on sense of power to see its effect on individual perceptions of their sense of power at work.

Conclusion: gaps in the literature on EI studies

Evidence from the review shows a positive correlation between EI and transformational leadership, self-efficacy, and sense of power. However, there is a gap in the body of knowledge in the context of Saudi Arabia. This study will enhance the body of knowledge by exploring these factors in the context of Saudi Arabia. Besides analysing leadership style, self-efficacy, and sense of power, the study will also examine whether interventions including training could

influence EI, self-efficacy, sense of power and leadership outcomes and whether these effects are sustainable over time.

Part Two: Education and training to improve EI level

One of the main goals is to evaluate the impact of training to improve EI levels. In this section, evidence on the impact of EI training to increase or improve EI level is discussed, explained, and critiqued.

Review question

According to Bronson and Davis (2012), the research question steers the systematic review and establishes how the search is conducted. Several components are considered in defining a review question, which includes the rationale for conducting a systematic review, the constraints of the question, and the significance of the question to practitioners and policymakers. In the case of this systematic review that has a focus on effectiveness, the research design involves identifying quantitative research that provides conclusions on whether there is a causal relationship between intervention and outcomes. These include experimental and quasi-experimental studies.

Guidelines on literature search recommended by the Centre for Reviews and Dissemination are followed in this study. For the research question, the population, intervention, comparison, outcomes and study design (PICOS framework) developed by the Centre for Reviews and Dissemination (2009) is utilised. The PICOS framework allows an inclusive, focused, and clear-cut question for ensuring that the review is methodical. The elements of PICOS for this study are as follows.

P: Participants. For this review, research articles have participants including students, employees, leaders, and managers.

I: Intervention. The intervention for this review was EI education and training programmes, regardless of the mode of delivery, duration, and follow-up.

C: Comparison. These included studies that compare training and educational programmes on EI, The studies are with and without intervention. Comparing the intervention or treatment group with a control group.

O: Outcome. These included details from the interventions used and results outcomes in the studies.

S: Study Design. Research designs including randomised controlled trials, non-randomised experimental designs, and quasi-experimental designs were included in this review. These

designs aim to establish a causal relationship between the dependent and independent variables, thereby establishing the effects of education and training programmes on the level of EI.

The PICOS templatewas used to set up the following review question, "**What are the impacts and effects of education and training programmes (I) on EI level (O) amongst individuals (P) when measured (S) and compared with the EI levels of individuals with no intervention (C)?"** These criteria were applied to the selected studies. The main outcome measure was the change in EI levels after each intervention. For this reason, the studies included intervention studies, and studies which featured intervention and control groups to compare any changes.

The Centre for Reviews and Dissemination signify the importance of choosing quality studies as this will reflect on the quality of the literature review that emerges from these studies (University of York and Centre for Reviews and Dissemination, 2009). The assessment of the quality of studies is discussed later in this chapter. Limiting the review to higher quality designs (randomised controlled trials (RCT) and quasi-experimental studies) means that the number of studies included from the literature will be limited and even further reduction in the number of items from which to gain worthwhile evidence occurs as quality criteria are applied. However, the aim of this study was to test the impact of emotional intelligence intervention/training program on the level of EI and therefore only experimental and quasi-experimental studies were included in this review.

The advantage of restricting the review to RCTs and quasi-experimental studies designs is that these two research designs are able to establish cause and effect. Focusing upon evidence from this sort of study allows researchers to establish a clear evidence base about the impact of intervention programmes. Furthermore, the homogeneity of the selected articles with regard to their designs decreases the risk of bias and increases the reliability of data extracted from them (Higgins and Green, 2008).

Identification of articles

The online search is filtered by using keywords including EI, training programmes, educational programmes, emotional intelligence level, developing emotional intelligence, and increasing emotional intelligence.

Search techniques

In this literature review, an online search was carried out on databases including PubMed, CINAHL, MEDLINE, Google Scholar, PsychINFO, and SCOPUS. The keywords mentioned above are combinedutilising "AND" and "OR" Boolean operators. The sensitivity of the search is increased by using truncations "*" or "$" or wildcards "?" or "#" in free text searches (see table 8). Studies identified through the online search were reviewed to evaluate the relevance of the studies. If deemed potentially relevant, full texts of the articles were retrieved. Identification of relevant studies was guided by inclusion and exclusion criteria (table 8). The final step of the search strategy was the manual search of the reference list of the relevant studies. References were considered for inclusion based on their titles. If deemed relevant, full texts of the literature are retrieved.

Table 8: Part two Boolean operators search techniques

Emotional intelligence	**And** Intervention*
OR EI*	**OR** Training*
OR Emotional intelligence ability	**OR** Increase*
OR Emotional intelligence competency	**OR** Impact*
OR Emotional intelligence trait	**OR** Program*

Inclusion and exclusion criteria

One important practice is to develop clear, precise inclusion and exclusion criteria, adhering to these during the process of study selection. Overt inclusion and exclusion criteria facilitate future audit, which reflects on the quality of the systematic review (Morse and Richards, 2002). Inclusion and exclusion criteria were developed (see Table 9) in order to assess which studies should be included in this systematic review and in order to ensure that only relevant papers to the topic under study were selected.

Table 9*:* Part two Inclusion &Exclusion criteria

Include studies that:	**Exclude studies that:**
Have been conducted on or after 2000	Have been performed before 2000
RCT , experimental , quasi-experimental	Are policies, essays, review papers, and clinical reports
Are in English	Are non-English
Have a focus on understanding training and EI effectiveness	Focus on other dimensions of EI
Have subjects including adults and young adults in different work place organisations or educational institutions	Include children or school aged participants

Inclusion criteria

All studies had to meet all of the inclusion criteria of being focused on EI intervention studies; prepared in English, reporting the outcome of experimental or quasi-experimental research.

The restriction to items published in English was applied as the official academic language in Saudi Arabia is the English languages mentioned previously in part one on pages 52-53.

A number of issues were found when testing the articles against the inclusion criteria. Articles included populations that were broader than the population at issue in this study, e.g. a nursing faculty.However the aim is to see the efficiency of EI intervention/training on the level of EI in individuals or how these programme could cause change, so the included studies varied from different workplace employees to undergraduate students (Gorgas et al. 2015; Lange 2014; Carrick 2010; Slaski and Cartwright 2003; Clarke, 2010; Kozlowski et al., 2018; Karimi et al., 2018; Bamberger et al., 2016).

Other study populations included undergraduates (Nelis et al. 2009; Vesely et al. 2014; Pool and Qualter 2011; Malek et al. 2011; Nelis et al. 2011; Gilar-Corbí et al., 2018; Groves, McEnrue and Shen 2008). Finally, this study tested the effectiveness of such a programme in increasing EI in general.

Exclusion criteria

Items which met any of the exclusion criteria were discarded. Articles published before 2000 were excluded since from this point. Mixed method studies were excluded if the conduct and outcomes of the experimental elements were not clearandstudies without full text are excluded.

Search results

An initial search through the databases mentioned above revealed 364 research studies (see Table 10). The titles and abstracts of these studies were screened, and duplicate studies were removed. This process resulted in the removal of 287 studies. Application of inclusion and exclusion criteria led to the removal of 129 studies due to duplication. 58 studies were removed because they had been published before 2000. Studies that have child participants were removed (n=67) since children are not the focus of this research. Another 19 studies were removed as these are expert opinions and review articles. Articles published in other languages, such as Korean and German, but without corresponding English translation, were also excluded (n=14). Unavailability of full text resulted in the exclusion of another seven studies.

For the remaining 77 studies, the full text was assessed. Closer scrutiny of these articles revealed that 29 did not analyse the effectiveness of EI training and education. Another 33 studies were excluded because their research design was neither experimental nor quasi-experimental.The outcome of this screening is that out of the 364 potential articles initially identified, 349 were eliminated, thereby resulting in 15 studies included for the review (see Figure 6).In order to document papers for this systematic review, “Preferred Reporting Items for Systematic Reviews and Meta-Analyses” (PRISMA) was used as the internationally preferred method of reporting (Moher et al., 2009).

Table 10 below shows a summary of the studies retrieved from each database. Four studies from PubMed fulfil the inclusion and exclusion criteria. Two study is from Google Scholar, four studies are from CINAHL, three studies from MEDLINE, two are from PsychINFO, and none from SCOPUS.

Table 10: Part two studies retrieved from each database

Database	# Identified	# Selected
PubMed	58	4
MEDLINE	185	3
Google Scholar	48	2
CINAHL	0	4
PsycINFO	73	2
SCOPUS	0	0
Total	364	**15**

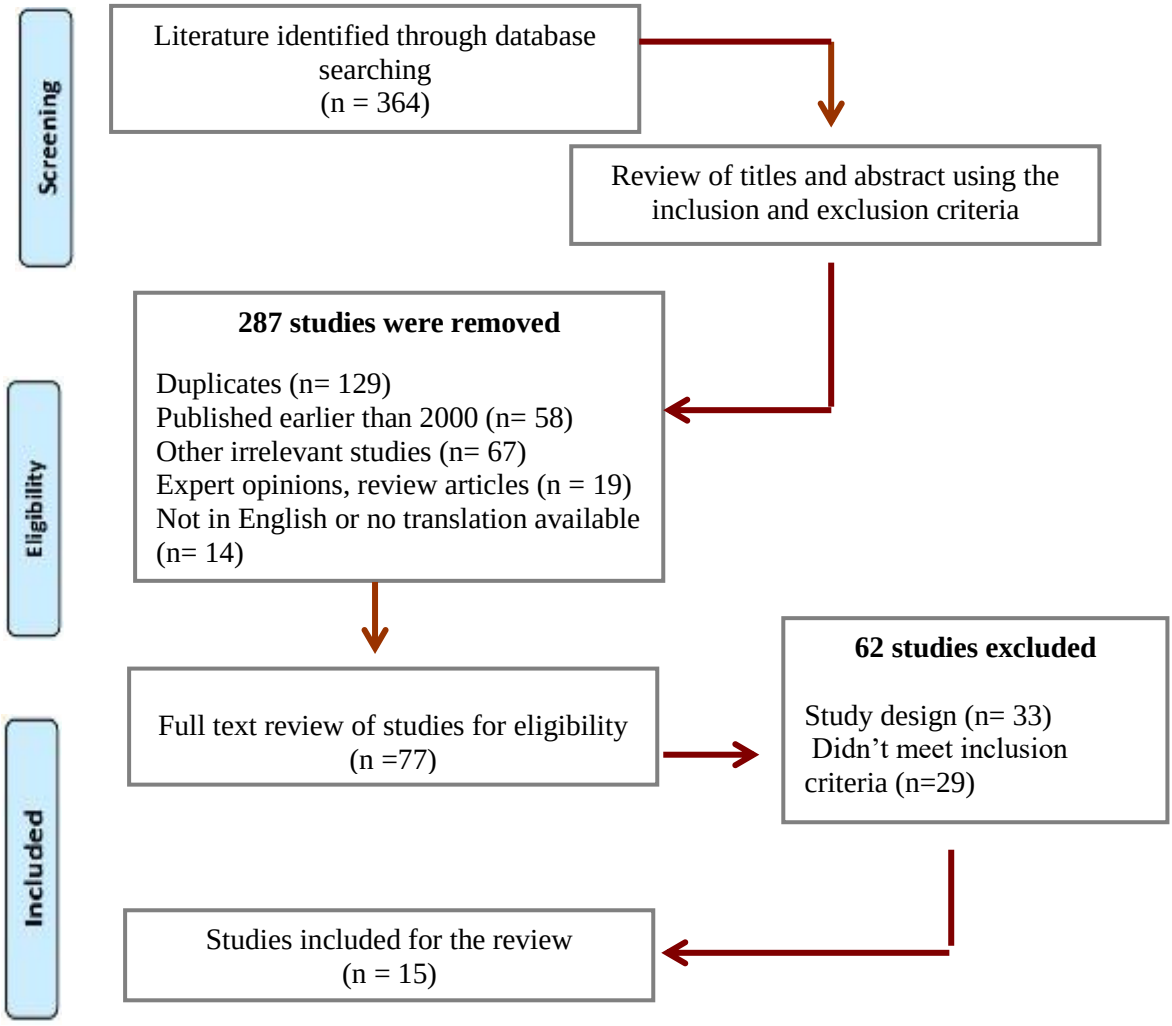

Figure 6 - *PRISMA Diagram part two*

Data extraction

For the review, the emphasis is on training and intervention as part of the EI investigation. Study designs range from controlled experimental designs to random sampling, which are good study designs to show the efficacy of interventions (Concato, Shah, and Horwitz, 2000). A summary of the studies reviewed is shown in Table 11.

Table 11: Part Two Summary of Studies

Study	**Study Design &Instrument**	**Sample**	**Intervention**	**Duration**	**Results**
1. Nelis et al. (2009) France	Controlled experimental design RCT; Trait Emotional Intelligence Questionnaire short form TEIQue (Petrides and Furnham), Emotion Regulation Profile Questionnaire (ERP-Q); Emotional	37 participants (19 in the training group, 18 in the control group) Filled out the questionnaire pre-post and six months after training.	Intervention includes training designed with short lectures based on Mayer and Salovey's EI model. Techniques include tools such as role play, group discussions, and activities.	4 sessions; 2.5 hours per sessions over 4 weeks	Significant increase in trait EI (TEIQue); emotion regulation profile-questionnaire; emotion management ability; and openness to emotional experiences. There is no significant difference between the pre /post-tests results in the control group.

	Management Abilities (EMA); Dimensions of Openness to Emotions; Situational Test of Emotional Understanding (SETU)				
2.Gorgas et al. (2015) USA	Randomised experiment RCT; Hay 360 Emotional Competence Inventory	33 emergency medicine residents Filled in the questionnaire pre-post and six months after training.	The intervention focused on improving the skill of social perspective taking. This is a skill related to social awareness. Tools include lectures, videos, and case studies.	Two-hour session on improving skill of social perspective taking	There is a significant interaction between Group and Time. Tests show a significant increase in EI scores from Time 1 to 3 for the EI intervention. There is no significant difference over time in the control group.
3. Lange (2014) Namibia	Quasi-experimental design; TEIQue short form Questionnaire	40 employees at the Ministry of Justice of the Republic of Namibia. Filled out the short Trait EI (TEIQue), before and	Educational intervention on emotion control, communication, stress and procrastination.	One-hour, one-on-one 4 sessions, which were conducted individually	Significant increase in EI scores from the pre-test to 3 months after the intervention for the EI intervention. In comparison to the other group, There is no change in the control group.

		three months after the training.			
4. Carrick (2010) USA	Mixed method and randomised controlled RCT study; The Emotional Quotient Inventory (EQ-i Bar-on, self-report) and qualitative critical incident interviews.	15 leaders in the University of Pennsylvania Health System; Questionnaire before and three months after training	Emotional intelligence competencies model Goleman learning intervention; Areas of training include assertiveness, impulse control, flexibility, and problem solving competencies.	One Half-day training classes	EI competencies Improved significantly (assertiveness, impulse control, flexibility and problem solving) . No change in the control group.
5. Vesely et al. (2014). Canada.	Quasi-experimental design; TEIQueQuestionnaire; Wong and Law EI Questionnaire; Satisfaction with life Scale (SWL); Perceived	49 undergraduate teacher candidates (23 in the control group and 26 in the intervention group) Pre-post training and one month follow up.	EI training for self-awareness and expression of emotions; reasoning; self-management; management of others and self-control. The training program is based on the Swinburne EI model. Training entails group discussion,	5-weekly EI, one and a half hour training program: Managing Occupational Stress through the Development of EI	Positive increased outcomes in EI score for the intervention group. There is no significant change in the control group. .

	Stress Scale (PSS)		workbook exercises and assignments.		
6. Pool and Qualter (2011) UK	Quasi-experimental design; Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT); Emotional Self-Efficacy Scale (ESES)	134 undergraduate students in North West England: 66 in the intervention group, 68 in the control group.	Intervention based on Salovey and Mayer's EI model and includes lectures, video clips, case studies, group discussions and role play.	11 classes taught weekly for 2 hours.	Significant increase in some aspects of EI ability; understanding and managing emotion, no significant change in perceiving and using emotion and emotional self-efficacy. No change occurs in the control group.
7. Malek et al. (2011) Jordan	Quasi-experimental design; Emotional Intelligence Appraisal (EIA); Student Adjustment to College Questionnaire (SACQ)	289 undergraduate (105 in the intervention group, 184 in the control group) students in Jordan	Emotional intelligence training based on Goleman, Boyatzis and McGee (2002) Model. The intervention includes lectures discussion, demonstrations, and role-play.	10-day EI training;	Significantincrease in EI level.No change occurred in control group.
8. Groves, McEnruea nd Shen	Quasi-experimental design; Mayer-	135 fully-employed business students in the intervention (75)	Training on EI skills including perception or appraisal, facilitation	11-week EI training program	Overall EI abilities and individual abilities increased: perception/appraisal, facilitating

(2008) USA	Salovey-Caruso Emotional Intelligence Test (MSCEIT	/control group (60)	thinking, understanding emotions, and regulation.		thinking, understanding emotions, and regulation/management No change in the control group.
9. Slaskiand Cartwright (2003) UK	Quasi-experimental design; Bar-On EQ-i; EIQ; General Health GHQ-28, Psychological Outcomes Queensland Public Agency Staff Survey (QPASS)	120 managers from a large UK retail chain. Intervention group (60), and control group (60). Scores before and six months after the training.	The program is based on the recommendation of Cherniss and Adler (2000) to focus on developing self-awareness component. Also, other EI components are covered. The program delivered in the form of lectures, group discussions, role play, and paired exercises.	1 day per week for 4 weeks	Significant increase in EI score post training. No change in the control group.
10.Clarke, (2010) UK	Quasi-experimental design MSCEIT scale	53 intervention and 18 control group project managers. Scores before, one month and six months after.	The intervention focus on developing self-awareness, and interpersonal relationships, structured exercises involving EI, to facilitate insights into aspects of their interpersonal behaviour or preferences.	2 day training program	Result at one month post training showed no significant changes. But a significant increase in EI Understanding Emotions scores at six month after. No change in the control group.

11.Kozlowski et al., (2018) Australia	quasi-experimental study, The GENOS Emotional Intelligence Self-Assessment	60 registered nursing (30 intervention, 30 control) across two geographical sites in Australia. Pre-intervention and three month follow up	Brief EI intervention covered the Genos model for the workplace by Palmer et.al (2008).	Five hour Workshop.	A significant increase in EI scores. No change in the control group.
12.Karimi et al., (2018) Australia	Quasi-experimental design Bar-On measure of EI.	Staff and residents (27 intervention and 17 control group) from two health care setting. Scored pre-intervention and six months after.	Training to develop critical EI skills based on all five dimensions of Bar-On model.	6 month training period; monthly half-day Workshopsand a 1-day face-to-face training	Significant increase in intervention EI scores .No change in the control group.
13. Nelis et al. (2011) France	Quasi-experimental design. (TEIQue), Questionnaire.	Undergraduate students (16 in intervention and 23 in control) groups. Pre- and post-intervention and six month follow up	Each session builds to develop different emotional intelligence components short lectures, role-play and group discussions.	18 hr of training.	Significant increase in emotional competence Trait EI, Emotion regulation, Emotional understanding overall EC. ($p<0.001$). No change in the control group.
14.Bamberger et al., (2016) Israel	Quasi-experimental design. Bar-On	The intervention group (n = 27), consisting of 17 physicians and 10	Outlined the meaning of EI, role play and simulations, small group discussions and case	10 sessions every month for 90–120,	Overall increasein EI scores. No change in the control group

	emotional quotient inventory (EQ-i)	nurses; 11 in the physicians control group. Bar-On's EQ-I assessed at baseline and after 18 months.	study analyses	minutes. Over 18 months.	
15.Gilar-Corbí et al., (2018) Spain	Experimental design RCT: perceived trait for the Emotional Quotient Inventory: Short (EQ-i:S) and Situational Test of Emotional Understanding (STEU)	48 in each of four groups, including the three intervention groups as well as a control group Pre-intervention and six weeks post-intervention.	Three methodological approach (class room, coaching and online) had 6 sessions covering: Introduction, Intrapersonal and self-perception and self-awareness, interpersonal relationships, empathy, and social responsibility Adaptability and decision-making (problem solving and impulse control) emotional expression, Stress management (flexibility, stress tolerance, optimism), Emotional understanding and emotion management	Each methodological approach had 2hours, in each session weekly.	Significant increase in EI score for the intervention group from all the three methodological approaches. No change in the control group.

Critical appraisal of studies quality

Hierarchy of evidence

For this review, the recommendations from the Joanna Briggs Institute for Evidence Based Nursing and Midwifery are utilised to assess the methodological quality of each study (The Joanna Briggs Institute, 2002). Based on the recommendations, the levels of effectiveness and the Hawker assessment toolhave been previously described in Table 6 in part one of this chapter (see page 66).

The Hawker assessment is based on a point system for each category, which ranges from 1 to 4, with 1 indicating a very poor score and 4 indicating a good score, thus allowing a maximum score of 36 points. An example of appraising an article using Hawker's Assessment Tool can be seen in Appendix (2). Table 12 shows the level of evidence and quality for each study reviewed according to the Joanna Briggs Institute for Evidence Based Nursing and Midwifery andHawker's et al Assessment Tool.

Table 12: Part two Quality Score & Level of Evidenceaccording to Briggs and Hawker

Study	**Quality Score (out of 36 points)**	**Level of Evidence**
1) Nelis et al. (2009)	29 (Fair)	Level II
2) Gorgas et al. (2015)	31 (Good)	Level II
3) Lange (2014)	35 (Good)	Level III
4) Carrick (2010)	27 (Fair)	Level II
5) Vesely et al. (2014)	32 (Good)	Level III
6) Pool andQualter (2011)	32 (Good)	Level III
7) Malek et al. (2011)	22 (Fair)	Level III
8) Groves, McEnrue and Shen (2008)	32 (Good)	Level II
9) Slaskiand Cartwright (2003)	32 (Good)	Level II
10) Clarke, (2010)	28 (Fair)	Level III
11)Kozlowski et al., (2018)	28 (Fair)	Level III
12) Karimi et al., (2018)	33 (Good)	Level III
13)Nelis et al. (2011)	30 (Good)	Level II
14) Bamberger et al., (2016)	33 (Good)	Level III
15)Gilar-Corbí et al., (2018)	31 (Good)	Level II

Based on these criteria, the quality of evidence is determined in part by the research design. This assumes that even the strongest design could be inadequately executed. The strongest evidence was obtained through randomised controlled trials and pseudo-randomised controlled trials, or quasi-experimental studies. Although the randomised controlled trials are generally known to generate strong evidence, it is important to note that not all randomised controlled trials are of the same quality (University of York and CRD, 2009). The methodical review used to guide this study included only research reports designated levels I, II and III: randomised controlled trials and quasi-experimental studies with a control group. This guaranteed that the review considered only the strongest designs. No systematic review was identified, so level I was not represented.

The assessment tool developed by Hawker et al. (2002) as described previously in part one (p.67) was used to assess the included studies. Table 12 shows the level of evidence and quality for each study reviewed according to the Joanna Briggs Institute for Evidence-based Nursing and Midwifery, and the Hawker tool.

Critiquing Framework

A summary of the individual quality score for each study is shown in above Table 11. The assessment of the studies with the Hawker (2002) checklist and the Joanna Briggs Institute for Evidence Based Nursing and Midwifery recommendations show that the studies have good methodological quality. 8 of the 15 studies are of Level III. For this systematic review, the levels of evidence are considered as important for evidence-based research, especially while seeking information about the effectiveness of the interventions including EI training and education programmes. The literature is analysed and critiqued to understand the impact of EI training programmes on EI levels. The available studiesare discussed more within four key areas: study aims, sample, method, and results. As following;

Study aims

The studies reviewed are in agreement with the findings about whether it is possible to change the level of EI with training and educational programmes. This overall outcome appears to be supported regardless of study design and holds across various areas including self-improvement, coping mechanisms, and leadership. This is a major finding of this review. In

the Nelis et al. (2009) and (2011) study, for example, the authors investigate the possibility of improving EI in young adults by implementing a training programme. The focus is on four specific elements: 1) Perception, appraisal, and expression of emotion; 2) Emotional facilitation of thinking; 3) Understanding and analysing emotions; and 4) Reflective regulation of emotion. The otherstudies (Gorgas et al., 2015; Lange, 2014; Carrick, 2010; Vesely et al., 2014; Pool andQualter, 2011; Groves, McEnrueand Shen, 2008; and Slaskiand Cartwright (2003) are formulated similarly. Their aims are expressed concisely as indicated in the research design.

Studies by Carrick (2010), Vesely et al. (2014) Clarke, (2010) and focus their aims on the relationship between EI training and education with leadership. Vesely et al. (2014) use evidence from the literature that EI can be developed through specific training and performed their study by utilising a modified EI training programme. They implemented this forteachers over a five-week period and quantified the effects on leadership and psychological well-being markers including the identification and regulation of emotion at work.

In summary, the studies have good quality (see table 12) concerning the aims and objectives. Specifically, the aims of the 15 studies mentioned above are relevant for the present study, which also intends to identify the impact and effectiveness of EI educational and training programmeson EI in the workplace in Saudi Arabia.

Sample

The study samples include eight major groups, which are employees e.g. teachers, staff nurses, physicians and managers (Gorgas et al. 2015; Lange 2014; Carrick 2010; Slaskiand Cartwright 2003; Clarke, 2010; Kozlowski et al., 2018; Karimi et al., 2018; Bamberger et al., 2016). The other seven studies include student samples: Nelis et al. 2009; Vesely et al. 2014; Pool andQualter 2011; Malek et al. 2011; Nelis et al. 2011; Gilar-Corbí et al., 2018; Groves, McEnrue, and Shen 2008). These samples from the studies are not the same as this study, but they are still relevant because the reviewed studies implement their intervention programmes in their respective environments, which are, school, offices, workplace, and an emergency department.

The sample sizes in the reviewed studies vary, ranging up to 289 (Malek et al., 2011). Determining the adequate sample size is an important consideration in studies that review

programme effectiveness of intervention programmes. Some studies produce inconclusive findings and results by having too few participants to reject the null hypothesis (Sim and Wright, 2000). In this review, two studies have a relatively small sample size. The study by Carrick (2010) has a sample size of 15 school administrators. This cannot be considered as a weakness in these two studies, as they are proportional to the organisational structure of the respective organisations. A cause for caution is that insufficient sample size, especially in testing the effectiveness of the intervention will not yield a result that is generalizable to the target population.

Carrick (2010) also has a small sample size of 15 participants. However, the study has a purposive sampling method. In this kind of sampling, researchers invite subjects who are willing to provide information based on their knowledge or experiences (Polgar and Thomas, 2008). Carrick (2010) invited participants, who are University of Pennsylvania Health System Nurse Managers, and willing to participate in the study and undergo learning intervention training classes. This study is a thesis for course completion, and this sampling method has advantages for the author as it saves time and cost in comparison to other methods. In other words, purposive sampling is appropriate for the author's methodology. This method does not typically generate large sample sizes (Koscielniak-Nielsen et al., 1999). Sample size calculation is essential in studies that utilise quantitative or mixed methods design to estimate the minimum sample size that will yield statistically significant results (Gerrish and Lacey, 2006). A researcher opting to use a smaller sample size should explore whether or not precision could be improved through a careful choice of design (NeliganandGurtner, 2013).

Besides the two studies mentioned above, the remaining studies have adequate sample sizes. MacNee and McCabe (2008) argue that an appropriate sample size could mean that the effects of intervention in a particular sample, in this case, the effectiveness of EI training and educational programmes could be applied to the wider population. This is because, in general, larger sample sizes lead to more precise estimates of population parameters and their differences and therefore it is theoretically possibleto achieve a specified degree of precision or power. True differences in outcomes can only be detected when research studies are adequately powered by a sample size that is large enough (Looney, 2002). Results from studies with smaller sample sizes are often underpowered and suffer from a risk for a type II error. This error occurs when a study does not find a statistically significant difference even though a difference exists. This is crucial, such as in the case of Guseh et al. (2015) and Carrick (2010),

because given small sample sizes, which have low statistical power, there is a high probability that the effectiveness of EI intervention may not be detected. That is, even though the research hypotheses are supported, the data collected may not yield statistically significant results. Consequently, the researchers are hard-pressed to prove that the effect is present. In reality, their research designs have low statistical power, which is not sensitive enough to detect an effect if one is present. However, there are situations such as resource constraints, as in Carrick's (2010) study, which may limit the study to a smaller sample size than sizes recommended by statistical considerations.

Therefore, adequate statistical power is vital for results to be statistically significant. In such cases, underpowered studies could be negative and inconclusive. In other words, such studies do not support causal relationships. Such studies contribute very little to scientific knowledge.

Interestingly, although they have adequate sample sizes, two studies (Nelis et al., 2009; and Gorgas et al., 2015) only mention the number of participants in their studies. The research designs do not mention how they arrived at the respective sample sizes. There is no sample size computation in the research designs.

In summary, most of the studies reviewed here have adequate sample sizes and yielded statistically significant results. The analysis shows that the results of these studies demonstrate the effects and impact of EI training and educational intervention. Since the designs are reliable and valid, the findings could be applied to the target populations.

Methods

Each study implements experimental or quasi-experimental research designs anddata collection uses self-administered questionnaires. Three studies used Trait Emotional Intelligence Questionnaire (TEIQue), namely, Nelis et al. (2009); Nelis et al. (2011) and Lange (2014), while another three studies (Pool and Qualter 2011; Groves, McEnrue and Shen 2008 and Clarke, 2010) have used Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). Moreover four studies used the Bar-on Emotional Quotient Inventory (EQ-i): Bamberger et al., 2016; Carrick 2010; Slaski and Cartwright, 2003 and Karimi et al., 2018.

Despite using these scales, these studies used other scales besides. For instance, Lange (2014) uses a TEIQue-SF and feedback questionnaire in the study to quantify the pre- and post-

intervention emotional intelligence levels of 40 employees. Nelis et al. (2009) utilise several data collection tools to quantify the effectiveness of EI training sessions amongst 37 student participants. Some of these tools include the Trait Emotional Intelligence Questionnaire (TEIQue), similar to the one used by Lange (2014), while the Emotional Management Abilities test (EMA)assesses a participant's ability to manage his/her own emotions. The quantitative methods within the studies rely heavily on tests, rating scales, questionnaires, and psychological measures to objectively quantify variables pre- and post-intervention. The quantitative approach is appropriate in these studies because it follows the confirmatory scientific method that has a focus on hypothesis and theory testing, i.e. that EI can be learned through education programmes and skills training interventions in specific environments, which include schools, businesses, or workplaces.

The studies employ a 'narrow angle lens' approach (Johnson and Christensen, 2012) since their focus is only on one or a few causal factors (EI intervention). This is accomplished by randomly assigning participants into groups; experimental and the control groups. The studies manipulate only one factor and examine the outcome, e.g. randomly assigning teacher participants into two groups. The random assignment makes the two groups equal and similar. Then the studies expose one group, for example, to an EI module (Pool and Qualter, 2011) or a half-day training and learning intervention (Carrick, 2010), while the other group does not receive the intervention. The two groups are treated similarly throughout the study, except for the research-manipulated difference (the intervention). It is through this quantitative method that the studies can examine the group with the intervention, compare them with the other group, and attribute the change in their respective EI scores to the intervention. One of the strengths of quantitative design is that the authors can make a causal attribution. This is because the two groups are similar at the start of the experiment, and the only difference is exposure to the EI intervention.

Seven studies (Nelis et al., 2009; Neliset al., 2011; Gorgas et al., 2015; Carrick, 2010; Groves, McEnrue and Shen, 2008, Slaski and Cartwright, 2003; and Gilar-Corbí et al.,2018) utilise a randomised sampling design. Utilising a sampling method has several advantages that contribute to the overall good quality of a study. For instance, by employing randomisation, bias is reduced (Daya and Altmanb, 2000). Minimising bias adds to the validity of a study because the known or unknown factors that affect the results are diminished (Concato, Shah, and Horwitz, 2000).

Eight studies (Lange, 2014; Vesely et al., 2014; Pool and Qualter, 2011 Malek et al. 2011;Clarke, 2010; Kozlowski et al., 2018; Karimi et al., 2018 and Bamberger et al., 2016) are well-designed experimental studies with control groups. Carrick (2010) utilises a mixed-methods technique, in which the author used qualitative interviews during the first part of the study and then proceeded to use an experimental research design during the second part of the research, which is the part considered in this review.

Outcomes of the review

This review shows evidence of the effectiveness of EI training and education programmes on EI levels. The results show that EI can be enhanced with training, or learned (Hong and Lee, 2016). Specifically, the following themes emerge from the review.

Effects of interventions

Nelis et al. (2009, 2011) found significant increases in trait EI (TEIQue, $p=0.033$); emotion regulation profile-questionnaire (ERPQ, $p<0.001$); emotion management ability (EMA, $p=0.003$); and openness to emotional experiences (DOE, $p=0.017$). Gorgas et al. (2015) provide evidence for a significant interaction effect between group and time ($p<0.05$). In the study, tests show a significant increase in EI scores from Time 1 to 3 for the EI intervention. Lange (2014) provide supporting evidence, where the mean difference from pre- to post-test was 18.95 ($p<0.05$), in comparison to the other group, which had a mean difference of 13.95. Carrick (2010) show improvement in EI competency assertiveness, impulse control, flexibility and problem-solving competencies ($p<0.05$). Vesely et al. (2014) found that focused EI training contributes to positive increases in TEIQue score at T3 (one month follow up) $p<0.01$ compared with T1 and T2 (pre-immediate post the intervention), with no change for the control group. Pool and Qualter (2011) found a significant increase in some aspects of EI ability; understanding ($p<0.01$) and managing emotion ($p<0.05$), as well as a significant change in perceiving and using emotion and emotional self-efficacy ($p<0.01$). Malek et al. (2011) also found significant improvement in EI level ($p=0.022$). Groves, McEnrue, and Shen (2008) found that overall EI abilities and individual abilities increased. These include perception/appraisal, facilitating thinking, understanding emotions, and regulation/management respectively (p values 0:05; 0:01; 0:001; 0:10). Slaski and Cartwright (2003) found that EQ-i mean score increased by 5.2 points from 95.6 to 100.8 post training ($p<0.001$). EIQ mean score increased by 11.4 points from 256.6 to 268.0 ($p<0.000$). Clarke (2010) and Karimi et al., (2018) both

found that there were significantly increased EI scores six months after the intervention ($p<0.001$).Kozlowski et al., (2018) and Gilar-Corbí et al., (2018) illustrate significant increases in EI total score after three months and six weeks respectively ($p< .05$, $p<0.001$). Also, Bamberger et al.'s (2016) result showed significant improvement in EI level $p<0.00118$ months after the intervention.

Interestingly three different methods were used by Gilar-Corbí et al., (2018) to deliver the intervention (in the classroom, online and by coaching): each approachproduced the same result of increasing EI score ($p<0.001$).

Evidence from the review demonstrates that well-executed and well-planned experimental designs and theoretically rich training programmes can positively affect an increased in the level of EI of participants. Though the studies are in different workplace settings, yet the evidence for the effectiveness of training on EI levels is good. Specific areas of EI training include self-awareness, interpersonal sensitivity, influence, motivation and emotional resilience. This suggests the focus of EI training should be perception or appraisal, facilitating thinking, understanding emotions, and regulation or management.

The evidence from the studies indicates that emotional abilities could be effectively improved within a short training period, ranging from shorter sessions of a one day or a half-day to an 18-month EI educational programme. Evidence shows that both the short or long time period of a training has produced an increase in EI level for those participants attending the intervention.

Learning interventions also include work-related characteristics including challenge, assessment, and support (Carrick, 2010), which are designed to improve EI. The studies help develop competency, leadership, and perspectives. For instance, school administrators who attended a short half-day educational intervention, which was combined with coaching sessions, enjoyed an improvement in EI competencies. School administrators achieved an understanding of the skills required to develop the competencies. The design and facilitation of the intervention enabled this change in EI competencies. The educational intervention induced change, while individual coaching reinforced this educational intervention, and established the competencies.

The review also shows the effects of EI programmes and interventions among employees in different workplace settings. Some of the interventions are individual counselling sessions and learning sessions. The programmes and interventions focus on EI traits such as thought control, assertiveness, communication, and stress management. Evidence shows that these interventions help increase an employee's EI level. The implication is that well-designed training could change and increase EI levels. This, in turn, could affect other variables such as the ability to deal with stressand communications.

Effectiveness of different programmes in enhancing the skills component on EI

Nelis et al.'s (2009, 2011) intervention includes training designed with short lectures based on Mayer and Salovey's EI model. The technique includes tools such as role play, group discussions and activities. Gorgas et al.'s (2015) intervention has a focus on improving the skill of social perspective taking. This is a skill related to social awareness with tools including lectures, videos, and case studies. Lange's (2014) educational intervention is focused on emotion control, communication, stress, and procrastination. Carrick (2010) and Malek et al.'s (2011) intervention includes EI training based on the competencies model suggested by Goleman, Boyatzis, and McGee (2002): areas of training include assertiveness, impulse control, flexibility, and problem-solving competencies via lectures discussion, demonstrations, and role-play.

Vesely et al.'s (2014) intervention includes EI training for self-awareness and expression of emotions; reasoning; self-management; management of others and self-control. The training program is based on the Swinburne EI model. Training elements include group discussion, workbook exercises, and assignments. Pool andQualter (2011) and Groves, McEnrue, and Shen (2008) used Salovey and Mayer EI model, the intervention includes lectures, video clips, case studies, group discussions and role play.

Slaski and Cartwright's (2003) and Karimi et al.'s (2018) interventions arebased on the Bar-On model including a focus on developing self-awareness component. The program is delivered in the form of lectures, group discussions, role play, and paired exercises. The interventions byBamberger et al., (2016), Gilar-Corbí et al., (2018) and Karimi et al., (2018) include training on EI skills including perception or appraisal, facilitation of thinking, understanding emotions and regulation, using group discussions and lectures.

The models on which the interventions are based include perception, appraisal, and

expression of emotion; emotional facilitation of thinking; understanding and analysing emotions; and reflective regulation of emotion. For this reason, EI interventions in the review vary greatly in the number of contact hours (ranging from minutes to hours), frequency of educational sessions (one session per day to one session every month for 18 months), duration (one month to 18 months follow-up), and pedagogy (teaching sessions, skills training, group discussions and didactic methods).

For instance, four two-and-a-half-hour sessions of training in a programme implemented for four weeks resulted in a dramatic and significant change in several competencies including emotion management and emotion identification (Nelis et al., 2009). The programme, which was designed and adapted from the Mayer and Salovey Four-Branch model (Elias et al., 1997), taught the students various techniques on how to enhance their skills in understanding and analysing emotions; awareness and evaluation of emotions; and regulation of emotions. This was achieved through lecture sessions, self-reading, and role-playing. The training programme resulted in a remarkable change in EI as indicated by a statistically significant increase in each student's trait emotional intelligence score (TEIQue). This change was not observed among students who did not undergo training in the same period. As a whole, the training sessions led to considerable advancement in emotion identification as well as emotion management towards self and emotions of others. Interestingly, changes in EIare not related to the level of EI before the intervention is administered, proving the effectiveness of the intervention. Other aspects of EI such as empathy, supportive behaviours, peer interaction, emotional skills, and use of emotion-focused words are also found to be positively affected by such training interventions.

Impact of emotional intelligence interventions over time

Several studies (Nelis et al., 2009; Lange, 2014; Carrick 2010, andBamberger et al., 2016) show the effects of EI skills training and programmes over time. Positive changes from EI interventions remain significantly raised for three months to as long as 18 months. This shows that EI changes and benefits are not only for the short-term but also for the long term. Additionally, it is noteworthy that some EI variables increase over time. The implication of these findings is that EI programmes could include follow-up interventions to maximise this effect.

One EI programme worth mentioning is the two-hour session implemented among emergency resident physicians (Gorgas et al. (2015) that focused on improving social

awareness. This is important because social awareness is one of the four discrete, measurable skill sets in emotional intelligence. The other three are self-management, self-awareness, and relationship management. The two-hour sessions effectively improved EI scores. However, the improvement was not observed immediately after intervention, but after six months. Concerning empathy, the studies demonstrate a modest positive impact on empathy and other emotional skills. This is evident even after three years of intervention.

Gaps in literature

Evidence from the literature shows that EI training has positive effects on EI levels for different workplace settings. However, the effectiveness of training for employees in a Saudi Arabian workplace setting, such as anursing facultyinstitute, is not known, because Saudi studies have not explored workplace EI interventions before. Therefore, this study will examine the effectiveness of EI training on employees in this setting.

Limitations of the review

One of the main limitations is that each study design is different, and each one is designed for examining a unique situation. The implication for this study is to select a design technique that is appropriate for the circumstances.

Conclusion and recommendations

The findings of this review are valuable. A properly planned and well-executed EI intervention programme could enhance one or more EI traits. Specifically, these are interventions directed at EI skills for academia and other workplace settings. Moreover, the study shows the beneficial improvements from such interventions, regardless of the environment. Emotional skills can be learned, and developmental programmes could benefit students, employees, and leaders. Evidence from this review also indicates that effects could be immediate or delayed.

Chapter Five: Methodology

Introduction

From the literature review conducted in the previous chapter, evidence demonstrated the potential benefits of emotional intelligence training and education interventions on variables such as emotional intelligence levels, leadership, self-efficacy, and perception of power. As gaps in knowledge are discovered, specific training and education programmes that are tailored towards emotional intelligence aspects in any environment such as schools, businesses, and workplace may be undertaken in order to acquire enhancement and promotion of efficiency in education, healthcare, or organisation. However, there is a paucity of studies that explore these concepts in the Middle East, much more amongst employees in a nursing Institution in Saudi Arabia. In line with this awareness, the current study was undertaken to explore these relationships utilising a quasi-experimental research design.

This chapter presents in detail the methods utilised in this study, the research paradigm, research design, participants, sample sampling, the research instruments, procedure for data collection, data analysis, and ethical considerations.

Research paradigm

According to Neill (2007), there are three major research paradigms in research and they are the positivism or quantitative approach, the interpretivism or qualitative approach, and critical science. Quantitative research mainly is associated with the positivist tradition, while qualitative research typically is correlated to the naturalistic inquiry (Polit and Beck, 2004). For this quantitative study, the positivist approach was selected as the most appropriate research paradigm.

The conventional or positivist scientific method pertains to a collective set of methodical, disciplined courses of action to obtain information. The positivist paradigm utilizes deductive reasoning and is largely used by quantitative researchers to produce hypotheses relevant to the real world. It is instituted on the principle that an objective description may be accomplished through careful use of the scientific method (Jablin and Putnam, 2000). This is in congruence with quantitative research, which is conducted by quantifying relationships between variables and expressing the relationships between these variables through statistics,

such as differences between means, relative frequencies, and correlations. Therefore, the conventional research paradigm relies on numerical data (quantitative) and statistical treatment of data.

There are a number of advantages in the positivist paradigm in answering the research question of this study. First, because this study seeks to determine the effectiveness of a training programme by comparing pre- and post-test scores, the structured approach of the positivist paradigm is more appropriate than that of the constructivist paradigm. Second, a methodology based on positivism may be more easily reproduced and can be duplicated by future researchers, which increases the reliability and validity of the study findings (Morgan, 2014). Relationships amongst variables, such as correlations and causality, can be established (Cryer, 2006). In contrast, taking a constructivist view would necessitate focusing on gathering data on participants' perceptions regarding the relationships between the study constructs (Morgan, 2014). A constructivist paradigm would include the personal beliefs and values of the participants, and would require an examination of the contexts in which these perceptions were formed (Hayes et al., 2015). The positivist paradigm was considered more appropriate for the purpose of this study.

Research approaches

This study was conceptualized using a deductive testing approach. Under this approach a theory is developed and then tested rigorously (Habib, et al., 2014). Thus, it represents the dominant research approach employed in natural sciences where the basis of explanation is offered by natural laws, phenomena are being anticipated and occurrences predicted and thus are allowed to be controlled (Tisdall, Davis and Gallagher, 2009). This study was conducted by following the five sequential stages listed by Blaxter, Hughes and Tight (2011). It started with the theory of how EI training would affect EI, leadership styles, self-efficacy, and perceptions of power among nursing college employees in Saudi Arabia. Based on this theory, hypotheses were developed and data was collected to test these hypotheses, namely scores for emotional intelligence, leadership styles, self-efficacy, and perceptions of power. Statistical analysis procedures were conducted to test the relationships between these variables, and how the scores for the control and intervention group differed. Lastly, conclusions and recommendations were made based on the results of the data analysis procedures conducted.

Quasi-experimental design

Implementing the most suitable study to answer a clinical inquiry is crucial in generating the best evidence. A fitting research design is made to take into account the type of research question being considered and the type of evidence necessary. This study was conducted using a quasi-experimental design. This design is effective as it is often difficult to conduct true experiments especially when dealing with human participants (Lubbers and Rossman, 2016), such as in healthcare and social research. Specifically, randomisation is not always possible in all research due to ethical, legal, and practical reasons. This study implemented a specific educational training intervention designed for a particular group of individuals, namely the employees in a Nursing Institution. In such conditions, a quasi-experiment was determined to be the most practical and feasible option. In addition, the quasi-experimental study design was selected because the generalisability of its findings is considered to be better compared with other non-experimental and observational designs and are time and resource efficient compared with experimental designs (Glasper and Rees, 2017).

A quasi experiment is empirical research utilised to approximate the causal effect of an intervention/programme on its target population (Shadish et al., 2016). Quasi-experimental studies are similar to a traditional experimental study or randomised controlled trials, but they are particularly deficient in terms of random assignment to intervention or control. Instead, quasi-experimental designs in general permit the researcher to manipulate the assignment to the intervention condition, but using a strict condition other than casual assignment, i.e. eligibility. This type of research design often involves investigation of an intact group. This is because it is impractical or impossible to deliver an intervention to some members of the group and not to others (Houser, 2012); for instance, where a researcher interested in the effectiveness of a new ward hand washing protocol for one patient care unit, compares outcomes to another patient care unit that did not receive the protocol. A comparison group exists, but it is not a true control group because the participants are not assigned to groups randomly. However, a quasi-experimental design can still be a strong design since it meets two of the three conditions for inferring causality – the independent variable precedes the dependent variable, and the influence of the independent variable can be measured. Furthermore, this type of design can be used to answer many of the same research questions as its experimental counterparts (Wall and Grant, 2009). Questions about the effectiveness of interventions are often addressed with this

design. The questions often begin with ‘what’ or ‘how’ and use action verbs to indicate an expected effect. The variables are measurable and can be quantified using numbers.

This study did not use a randomised controlled trial design. The primary reason is that it was not feasible to undertake this particular design in the context of a specifically developed emotional intelligence training and education intervention purposely intended for employees within an identified nursing institution. Although it is possible to randomly distribute study participants into groups (intervention and control groups), the presence of a higher risk of contamination between groups was considered likely to affect the outcome of the study and thus impact on the reliability of information being generated. Furthermore, one issue concerning to this researcher is external validity, which is the ability to generalise results to other groups in the population (as opposed to internal validity which concerns the validity of results for persons in the study).

The non-equivalent control group (before and after design), is the most commonly used quasi-experimental design and involves two or more groups of participants observed before and after the implementation of an intervention (Polit and Beck, 2010). This design is similar to the before and after experimental design with the only difference being that participants are not randomly allocated into each group. Quasi-experimental design is a strong one in the sense that the collection of pre-test data allows the researcher to determine whether participants in intervention and control groups have similar characteristics before the intervention was implemented. If the comparison and intervention groups are similar at baseline, one could confidently infer that any post-test difference is the result of the intervention introduced. Furthermore, the utilization of quasi experiments offers the researcher several advantages such as a more feasible study design than true experiments to conduct in an applied setting; true experiments may not be ethical or feasible as it may be impossible to deliver an intervention to some individuals in a group and not to others (Wall and Grant, 2009). Quasi experiment studies introduce a level of control that reduces the effect of extraneous variables; and accessible participants may be utilised for the study so that larger samples may be obtained (Polit and Beck, 2010).

Design of the study

To determine whether the intervention administered in this study had an impact on the dependent variables, a pre-test/post-test design was used. The pre-test was administered prior to the introduction of the education programme. Three post-tests were administered to measure sustainability, specifically immediately after the intervention (T2), one month after the intervention (T3), and three months after the intervention (T4), as summarized in Table 13 below. The intervention participants were exposed to a one-day emotional intelligence education programme, which included background on emotional intelligence and activities aimed at improving self and social awareness, as well as self and social management skills. To address the research questions and hypotheses, scores for the variables of EI, leadership styles, self-efficacy, and perceptions of power were collected and compared against the control group. The data analysis for the study used the participants' grouping as the independent variable (control vs. intervention), wherein the intervention group underwent the EI education programme. The dependent variables of the study were EI levels as measured by the Schutte Emotional Intelligence Self-Report Scale, leadership style as measure by the Multifactorial Leadership Questionnaire (Bass and Avolio, 1995), self-efficacy as measured by the General Self-Efficacy Scale (GSES), and perception of power as measured by Personal sense of Power (PSP) Scale (Anderson et al., 2012).

Table 13: Study design

Group	**Data collection**			
	Before Intervention	Immediately After Intervention	One-month After	3-months After
Intervention	T1	T2	T3	T4
Control	T1	T2	T3	T4

The specific intervention programme was based on emotional intelligence interventions used to manage emotional intelligence amongst employees working in a Nursing Institution setting. The programme has been modified to address cultural variations. The employees in both the intervention and control groups were assessed for their levels of emotional intelligence at baseline (pre-education programme) and post-intervention at three selected time periods of immediately after the programme implementation, one-month post-intervention, and three months' post-intervention. This was done in order to assess the long-term effect as well as to

explore whether the differences observed immediately after the intervention programme is sustained.

Study setting and location

The study took place in the Hail Region, which is the home of Hail University – specifically in Hail City - and other three provinces in the Hail Region: Alshanan (80 km from Hail city), Samara (120 km from Hail city) and Alshamli (170 km from Hail city). The northern campuses, Hail and Alshanan, were assigned to be the intervention group; whilst the southern campuses, Alshamli and Samara, were designated as the control group so as to avoid contamination amongst participants. This distribution was based on the distance from the researcher's location, which is in Hail City. Hail University is the largest university in the Hail region of Saudi Arabia, which is composed of several branches in the region. The College of Nursing is allocated into four campuses in different governorates of the Hail region (UOH, 2015). The participants in this study included Nursing College employees from this university. The locations of the campuses are shown in figure (7) with boundary line between the two groups.

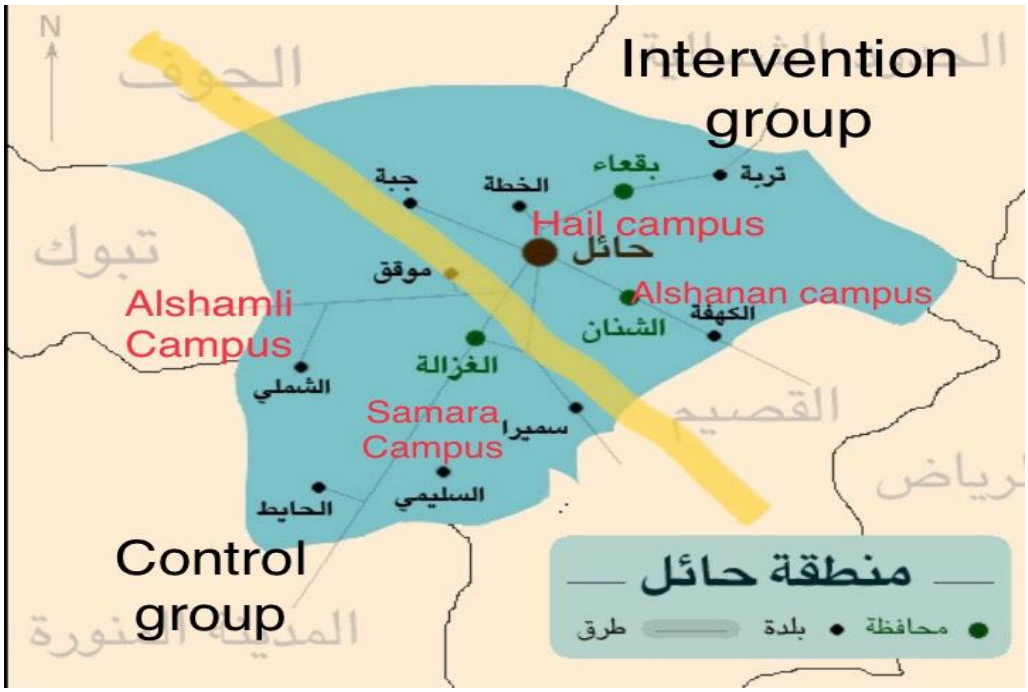

Figure 7*: A map of intervention and control group in university campuses*

Sample and sampling method

The study utilised convenience sampling to recruit employees into the study. Convenience sampling is a kind of non-probability or non-random sampling technique where participants of the target population who meet a certain criteria are included in the study (Dornyei, 2007). These criteria may include geographical proximity, willingness to participate, availability, or accessibility of the study participants to the researcher. Convenience sampling is also straightforward, inexpensive, and study participants are readily available. The main intention in utilising a convenience sampling method is to collate information from participants who are easy to get to for the researcher. For this study, a convenience sample of employees from the Nursing College of Ha'il University were selected based on the inclusion and exclusion criteria.

Sample size

In this study, it was observed that the participants from the intervention group and participants from the control group had similar characteristics with regard to sample size and demographics. Therefore, utilising the standardised sample size table by Hinkle and Oliver (1983), if level of significance is 0.05 (95%), power is 0.80 (80%), and standardised effect size is medium (0.5), the minimum sample size required to guarantee a statistically significant result is 84 participants required for each group. This number, according to Hinkle and Oliver (1983), may be modified provided that the study sample is homogeneous and that the data collection instruments are well-validated. Thus, for this study, at least a total of 168 participants needed to be recruited to participate in the study. However, estimating a 50% participation rate as a result of attrition and/or missing data, a larger sample size would provide greater power and reduce the likelihood of type II error. Based on this assumption, all faculty employees in the Hail University Nursing Institution, estimated to be about 2,121 across all the four campuses (MOE, 2018), were invited to participate in the study.

Inclusion and exclusion criteria

The inclusion criteria, and the exclusion criteria, are sets of clear-cut parameters that depicts the characteristics of the participants in this study to be included or excluded (Card, 2012). These criteria are specified before commencing with the next phase of the study in order to establish whether each study participant possesses the characteristics needed for them to contribute useful data for the study. Furthermore, these criteria define the population to which

conclusions can be made (Jesson et al., 2011) and contribute to the transparency of the results (Card, 2012).

This study is therefore guided by the following inclusion and exclusion criteria:

Inclusion criteria

To be included in the study, participants must be:

- Nursing faculty members of the NursingCollege at HailUniversity
- Employees who are included in the job category under the Nursing College, e.g. staff and faculty members

Exclusion criteria

The exclusion criteria for the study are as follows:

- Employees who have undergone or is currently undergoing any form of emotional intelligence programme, inside or outside of the University, or who plans to do so during the span of time when the study was conducted.

The inclusion and exclusion criteria for the study were articulated to potential participants through the consent process. Likewise, to confirm that all participants met the inclusion and exclusion criteria for the study, they were asked to provide the requisite information in the information sheet portion of the data collection instrument.

Data collection

Subsequent to the approval of the study by the University of Salford Research Ethics Committee (see Appendix 9) and the Hail University Ethics Committee (see Appendix 10), the researcher conducted a pilot study at the University of Salford, School of Health Sciences, to assess the feasibility of the study intervention and the data to be collected.

Recruitment

To recruit as many participants as possible, the researcher strove to approach all the qualified employees in the nursing institution. Recruitment procedures lasted for one week and resulted in a final sample of 206 participants, with 105 for the intervention group and 101 participants for the control group at T1 (pre-intervention). The total of 206 is more than the

estimated 168 sample size required for the statistical tests of the study. This was also achievedin order to address potential issues of missing data or drop-outs from the study and participants in subsequent stages were from this original group, with a smalllevel of attrition. Moreover, at post-intervention T2 (immediately after the education workshop programme), there were 96 participants for the intervention group and 92 in the control group. In the post-intervention test T3 (one month after the education workshop programme), there were 86 participants in the intervention group and 84 in the control group; and in the post-intervention test T4 (three months' post education workshop programme), there were 85 participants in the intervention and 83 in the control group as summarized in the table 14 below.

Table 14: Number of participants in each group phase of the study

Time	N	
	Intervention	Control
T1 (pre-intervention).	105	101
T2 (post-intervention).	96	92
T3 (one month follow up).	86	84
T4 (three month follow up).	85	83

Data collection procedure

The recruitment procedure followed for this study is described below.

- The researcher met with the Research Manager, who is in charge of the Nursing College, regarding the basic preparations towards the study and the implementation of the intervention workshop.
- The study was advertised using posters (see Appendix 3) that contained the purpose of the study, the nature of participation and time required from participants, the significance of the study, and the researcher's contact details. The posters were made available in the aforementioned campuses of Hail University. Interested potential participants were advised to contact the researcher through the details providing information regarding the study.
- Interested individuals were provided with copies of the informed consent form (Appendix 5) and the information sheet (Appendix 4) inside an envelope, on each

envelope there was the participant's code number and their personal contact details, phone number and email. They were asked to complete the information sheet and submit it ina sealed box placed in each employee main office. Using the information provided in the information sheets, interested individuals were screened by the researcher for eligibility to participate based on the inclusion and exclusion criteria of the study. Eligible participants were then asked to sign the consent form (see Appendix 5).

- After a few days, the researcher followed up in person to confirm participation in the study. Once participation was confirmed, the procedure to determine eligibility was repeated and signed informed consent was obtained.
- At T1, there was a total of 206 participants, with 105 participants in the intervention group and 101 participants in the control group. These 206 participants were asked to complete all the data collection instruments (see Appendix 6) before the EI training programme was administered. The study participants were also asked to provide demographic information (Appendix 6).

The procedure followed for the workshops and data collection are described below.

- To facilitate the administration of the training programme, the 105 participants in the intervention group were divided into five groups with approximately 20-25 participants each. In observance of Saudi custom and tradition, the male and female participants were separated during the programme. Given that the researcher is female, the training programme was administered to the male participants from behind a screen, with an assistant distributing the materials to the participants. On the Hail campus, the researcher conducted three workshops, with 20 females in the first workshop, 17 females in the second workshop, and 23 males in the third workshop. On the Alshanan campus, two workshops were conducted, with 26 females in the first workshop and 19 males in the second workshop.
- Each workshop was delivered as a one-day training programme lasting for a total of six hours. The workshops were conducted at the seminar room of the Nursing College of Hail University (see Appendix 8). Prior to the implementation of the training programme, the participants were informed that participation in the programme was strictly on a voluntary basis, and that they were free to withdraw from the study at any point with no penalties or negative consequences. At the start

of the training programme, all participants were welcomed to the session, and thanked for taking their time to participate in the study. Immediately after the completion of the session, all participants in the intervention group were asked to complete the questionnaire (T2) – for the control group, T2 was the day after the session. One month after the training progamme, the participants from both the control and the intervention group were once again reminded by emailto complete the study questionnaires for T3 data collection. This procedure was repeated three months later for the T4 data collection.

- Data collection started during March 2016. It should be noted that prior to any data collection procedures, a small pilot study of the workshop materials and questionnaire were conducted in Salford University.

Workshop design

Education workshops to develop an individual's emotional intelligence focus on recognising non-verbal signals for emotions and move to more progressive exercises in self-expression and acknowledgment of situational stressors (Satterfield and Hughes, 2007). Interventions in the workplace vary from education about team building, skills in communication, as well as wellness workshops (Vakola at al., 2004). The ultimate workshop programme for professionals would efficiently improve emotional intelligence without huge investments of time and resources.

The intervention programme for this study is a one-day educational workshop delivered to 25 to 30 participants. A total of five workshops were conducted to accommodate the 105 participants in the study's intervention group. As suggested by Edwards (2011), the maximum number of participants for an effective group activity is about 20, ideally about 15 participants for each group. However, for groups whose primary purpose is education and support (such as the educational programme intervention described here), rather than more intensive therapy,the numbers could be higher, perhaps 25 to 30 participants.

The training programme was implemented in order to present, discuss, and demonstrate concepts relevant to EI. All sessions were interactive, presented using a sequence of lecture slides in PowerPoint and practised through role-play sessions where subsequent feedback was provided. The training programme was developed using various sources to enhance the participants' literacy regarding emotions and self-efficacy (Assanova and McGuire, 2009),

vision and guidance (Nelson, Low, and Hammett, 2007), strategies of communication (Wilson, 2007), and overall positive impact and EI (Cherniss and Adler, 2000). The intervention programme focused on giving training affecting the emotional intelligence components of understanding emotion, managing emotion, understanding others' emotions, and managing others' emotions. It is through the education training programme that these components may affect the study variables leadership style, self-efficacy, and sense of power in relationship to changes in emotional intelligence level.

The design of this specific intervention was derived and modelled after similar programmes, specifically from emotional intelligence competency skills by Goleman (2002). Goleman et al. (2002) suggested 20 skills in the EI competency, which are under four key components. These components include: (1) Self-awareness, which is the capability to understand own emotions, limitations, and strengths; and include values and motives, emotional self-awareness, accurate self-assessment, and self-confidence. (2) Self-management, which is the capability to control troublesome emotions and guarantee control over them including self-control, simplicity, achievement, initiative, adaptability, and optimism. (3) Self-awareness, which is knowing other individual's emotions and point of view, including empathy, organisational awareness, and service. (4) Relationship management (social skill) that entails the capability to manage relationships with others, including inspirational leadership, developing others, influence, communication, change catalyst, teamwork, collaboration, and conflict management. Goleman's theories on EI competencies were used as the basis for this study, in line with a similar study conducted by Alferaih (2015) on creating a conceptual model to measure Saudi banking managers' job performance based on their EI. Alfeirah (2015) based his study on Goleman's (2002) model of EI competency, which shows its relevance for use in the workplace environment in Saudi Arabia. The contents of the education workshop are attached to this document as Appendix 8 Likewise, a detailed timetable for the programme can be found in Appendix 7.

The education workshop covered the following topics and activities:

1. Introduction about the study, its purpose, and delegation of participant roles.
2. Background on emotional intelligence, its definition, historical background, and benefits.
3. Strategies for emphasising self-awareness and self-management skills.

4. Strategies highlighting social awareness and social management skills.
5. Post-test evaluation (immediate post-test assessment/T2).

The workshop began with the introduction of the topic, a little background about the study, and its importance and application at the workplace. At the beginning of the workshop programme, participants were given two situations that they would likely encounter in the workplace. From these situations, the concept of emotional intelligence was introduced through a lecture, encompassing topics like the anatomic background of EI, the history of emotional intelligence, the differences between emotional intelligence and intelligence quotient, types of emotionally intelligent people, the importance of EI, the different emotional intelligence models, behavioural change, and the importance of emotional intelligence in the workplace. The workshop then shifted its focus onto the concept of self-awareness (self-confidence, self-assessment), self-management (self and social), and relationship management with their corresponding activities aiming at developing these skills. Discussions and feedback were encouraged. The last part of the education workshop was about developing emotional intelligence as learned from the activities and acquisition of these skills through practice.

Furthermore, as detailed below, the four variables were assessed at the start and immediately following the workshop, utilising specific instruments objectively validated by previous researchers in the topic. Emotional intelligence levels were measured using the Schutte Emotional Intelligence Self-Report Scale (1998), leadership was measured via Multifactorial Leadership Questionnaire (Bass and Avolio, 1995), self-efficacy was quantitatively measured through the General Self-Efficacy (GSE) Scale, and the perception of power using the 8-item Personal sense of Power (PSP) Scale. At the beginning of the education workshop, the participants in the intervention group completed a baseline assessment of their emotional intelligence levels, leadership, self-efficacy, and perception of power. Following the workshop the post-test was conductedutilizing the same questionnaire. On the following day the control group also did the same baseline pre-test and post-test assessment, which was done in another location. The researcher and a research assistant in Alshamly and Samuraa campus distributed the questionnaires to the control group.

Although it is not possible to determine exactly what happened with the control group between the data collection points—T1 and T2, it is known the control group participants continued working at their usual tasks while the intervention group participated in the workshop.

Experiences during the day—outside influences—could have affected the control group participants' moods which in turn could have an effect on the replies provided on the questionnaire (Petrides and Furnham, 2003). It is also important to note that the time lapse between the data collection points differ slightly due to influences of the participants' work situations. It is not known what impact these small variations in time lapse between T1 and T2 might have had on assessment scores.

Pilot study

One approach researchers take in order to address some of the limits related to measures and methods is to implement a pilot study. A pilot study is a small research study that develops and demonstrates the effectiveness of selected measures and methods (Macnee and McCabe, 2008). In some cases, this kind of study is utilised to illustrate the potential importance of a selected factor to a research problem. In other cases, it is utilised to illustrate the reliability or validity of selected measures in a unique situation or example (Thomas et al., 2015). The pilot study may be also used to assess the capability of the researcher/s to implement a study.

In this regard, the researcher conducted a pilot study in order to test the instrumentation and clearly define the data collecting procedures, as well as explore the applicability of the methodology under conditions given by the context in which the methods are to be utilised. A pilot study was conducted in the University of Salford before the commencement of the empirical research itself for the workshop materials and the questionnaires. In doing so, the researcher was able to pinpoint gaps in the procedures and modified the intervention accordingly. The pilot study provided the researcher with the opportunity to try out specific aspects of the study, specifically the procedures and the best ways on how to commence with the education workshop. It provided the researcher with insight on how much time is needed for specific activities within the intervention and how much time is needed to complete the study questionnaires. Finally, the responses of the participants were examined to determine whether the items were clear and appropriate.

To conduct the pilot study, the researcher invited participation from six postgraduate nursing students from KSA who were studying at the University of Salford. The researcher's supervisor also attended the pilot study session to provide guidance and feedback. Participants were members of the nursing faculty in different universities in Saudi Arabia. The pilot study participants were also asked to complete the questionnaires that were used for the study. After

the pilot study session, participants were given a sheet of paper on which to write their feedback about the session. The researcher solicited feedback from the pilot study participants and made modifications to the training session based on the feedback. For example, one of the comments given by the pilot study participants was that the researcher spoke too quickly during the session, which made it difficult to understand. The comments provided by the participants provided helpful information on how to improve the content of the workshops, as well as to improve the manner in which the training programme was conducted.

Research instruments

The following research instruments were used in the study in order to measure the dependent variables:

1. **Demographic data**

Participants were asked to provide socio-demographic data, such as their gender, age, education level, occupation, and years of experience. These data were collected using a short demographic questionnaire, which the participants completed prior to completing the other study questionnaires. This indicated that 53% of the research participants in the control group were females and 50.6% of the research participants in the intervention group were females. A majority of these participants held Master's (36.1%) and PhD (48.2%) degrees. 66.9% of the research participants were faculty members in the Nursing Faculty.

2. **Schutte Self Report Emotional Intelligence Test (SSEIT) Scale**

The EI variable was quantified based on scores on the 33-item SSEIT, which aims to assess how respondents typically understand, identify, regulate and harness various emotions (Schutte et al., 2013). Participants used a 5-point scale ranging from strongly disagree (1) to strongly agree (5) to rate the items on the questionnaire, which requires about 10 to 15 minutes to complete. The 33-item scale has proven construct validity (Schutte et al., 2013). Greater emotional intelligence is characterised by higher scores, and Cronbach's alpha assessment for internal consistency has resulted in a value of 0.94 (Schutte et al., 2013).

3. **Multifactor Leadership Questionnaire (MLQ) Scale**

The total leadership quality were assessed using the quantitative tool developed by Bass, Bernard, and Avolio (1992) and subsequently shortened for transformational leadership style measurement (Northouse et al., 2001). The short form the called Multifactor Leadership Questionnaire (MLQ-6S), has 21-item questions utilising a scale range, suitable for the measurement of various forms of leadership including transformational, transactional and passive/avoidant type of leadership (Northouse et al., 2001). It usually takes 10- 15 minutes to complete. The tools have been valid for variety of organisational settings, and across different leadership roles in many cultures (Bass, 1999).

4. **General Self-Efficacy (GSE) Scale**

The measurement of the general self-efficacy was conducted as per the method proposed by Schwarzer and Jerusalem (1995). Self-efficacy was measured using the GSE, which is a 10-item questionnaire that uses a four-point Likert scale (1 = not at all true, 2 = hardly true, 3 = moderately true, 4 = always true) (Schwarzer and Jerusalem, 1995). It takes 5 to 10 minutes to complete. An assessment of its internal consistency resulted in a Cronbach's alpha value of $\alpha = 0.78$ (Schwarzer and Jerusalem, 1995).

5. **Personal sense of Power (PSP) Scale**

The extent of personal power as perceived by individual at their place of work was assessed using the 8-item Power Scale (Anderson et al., 2012). The Power Scale is a robust instrument covering many interpersonal and workplace activities that allow participants to assess the level of power they possess at their place of work. The scale ranged from strongly disagree (1) to strongly agree (7). Previous research has resulted in a Cronbach's alpha value of 0.82 (Anderson et al., 2012). It takes 5 to 10 minutes to complete.

Reliability and validity

In quantitative studies, validity refers to the extent to which a concept is accurately measured (Heale and Twycross, 2015). In comparison, reliability refers to the consistency of measures used. The selected data collection materials used in this study contribute largely to the study's overall validity and reliability. All instruments selected for this study were previously validated in research studies. Likewise, all instruments used in the study were determined to have Cronbach's alpha values higher than the standard accepted value of 0.70.

Moreover, to increase the reliability of the study results, the procedures used in the study are clearly described in this thesis to allow future researchers to replicate the study in different settings.

Quantitative researchers also need to take into account the various threats to validity and reliability, such as history, maturation, selection, testing, and design contamination (Claydon, 2015). The threat of history did not apply to this study, because it used a two-group, pre-test/post-test design. The threat of history, which pertains to unanticipated events occurring while the experiment was ongoing to affect the dependent variable, only applies to studies wherein the comparison is conducted within the group (Heale and Twycross, 2015). In the case of this study, the comparison was between a control and an intervention group. Likewise, the threat from maturity, which refers to changes in the dependent variable that are due to normal developmental changes, was controlled for by the testing of the control group at the same time points as the intervention group. The likelihood of design contamination was minimised in this study because students in the control and intervention groups were kept separate from each other by virtue of their being placed in different campus locations. The threat of selection was controlled in this study because the participants' assignation to the control and intervention groups was based simply on their campus location and not on any other demographic traits. Given participants weredrawn from the same organisation, it is assumed that the groups were equivalent at the beginning of the study.

However, the threat of testing was considered in this study. In a pre-test/post-test design, the questions on the pre-test might have predisposed the participants to focus on aspects of the training programme related to the items on the data collection instruments, which could affect the validity of the data collected. To address this concern, the participants were reminded at all points of data collection that their honesty in responding to the questions was integral to the validity and reliability of the study results.

Likewise, to add to the validity and reliability of the study, internal reliability of the instruments was measured using Cronbach's alpha values. This type of reliability reflects the consistency between items within a scale or a subscale, i.e. the extent to which items/questions measures for the same things. Cronbach's alpha which has a value between 0 and 1, with a minimum accepted value of 0.70. The instruments used in the study exhibit strong internal reliability in all scales and subscales. Overall Emotional Intelligence showed an alpha value of 0.97, while its subscales also showed good level for reliability, with alpha values ranging from

0.85 to 0.93. Sense of power showed a reliability score of 0.70 while Self-Efficacy had a reliability score of 0.82. Multifactor leadership scale had a reliability score of 0.82, while individually its subscales ranged in reliability between 0.67 to 0.79. Based on these results, it was determined that the scales and subscales exhibited satisfactory internal reliability.

Data analysis

Data were coded and entered using IBM SPSS version 23. The demographic data of the participants have been presented in tabular form using frequencies and percentages. Furthermore, the data for all the outcome variables was assessed for normality using Shapiro Wilk tests and the results presented in statistics and *p* values (see appendix 11). The data were not normally distributed, thus, non-parametric tests were conducted. The non-parametric Mann-Whitney U Test was conducted to compare the outcomes measures between the control and intervention group at each of the four time periods. The non-parametric Friedman test was conducted to compare the outcome measures within the intervention group at each of the four time periods. Prior to conducting these tests. In instances where the Friedman test indicated that there were statistically significant differences, the non-parametric Wilcoxon rank test was conducted to identify where the differences occurred.

Ethical considerations

The current study was conducted in accordance with ethical academic research, particularly with the procedures of the research ethics committee and the University of Salford guidelines on conducting research. The study also abided by other ethical documents and guidelines prescribed by the setting of the study, which was Saudi Arabia. The study considered two major issues as detailed below, which are particularly important to the ethical procedure of Saudi Arabia. The researcher was granted approval by the University of Salford Research, Innovation and Academic Engagement Ethical Approval Panel (see Appendix 9), and also by the Saudi Arabian Ministry of Higher Education Hail University (see Appendix 10). Having successfully obtained approval from both ethics research committees, the researcher commenced participant recruitment and data collection procedures.

Ethical issues during data collection

There are also other issues that are particularly related to specific technique of data collection. Irrespective of the technique utilized for collection of data there are ethical principles which were adhered to by the researcher (Bray, Johns and Kilburn, 2010), one of which is the significance of not intruding or causing harm on the privacy of an intended participant. Another concern was the right of the participant to not participate (Waterman, 2003). Even though the participants had provided informed consent to participate in the research process, they still possessed rights which cannot be breached (Tight and Huisman, 2013). This means that they also possessed the right to withdraw from the research at any time they wanted to. They were also allowed to decline to answer any question with which they did not feel comfortable answering (Adams, et al., 2011). Furthermore, a researcher must not ask participants to provide information which is related to their personal and private life, yet unrelated to the study. No such information was asked from participants, because it goes beyond the scope of access agreed with the participants (Lichtman, 2014). It was also important to discuss here that the researcher was careful not to employ any form of deception with the participants. An open communication policy was enacted from the initial stages of recruitment up to the completion of data collection procedures. The researcher provided a contact number through which interested participants could contact her to ask for more details or clarifications regarding the study.

Informed consent

Informed consent is universally recognised as a vital component of ethical conduct in scientific research. Requirements for informed consent in national and international guidelines are based upon and justified by the principle of respect of individuals (Marshall, 2007). Informed consent describes an interactive process in which individuals voluntarily agree to participate in a research study after the purpose, risks, benefits, and alternatives havebeen described and understood. Three conditions are foundations to informed consent – the provision of information, comprehension of information, and voluntary participation.

In studies such as this one involving human participants, obtaining informed consent was important. Each study participant had the right to be informed or be provided with all pertinent information relevant to the research and to willingly give his/ her consent to participate in the study. All participants were provided with an information sheet detailing the

pertinent details of the study before they made their decision to participate in the study (see Appendix 4). The overall purpose of the study was explained in detailed, its potential benefits, as well as encouraged the potential participants to voice questions and seek clarifications. The nature of participation and time requirements were also clearly indicated. Participant confidentiality and anonymity were assured by the researcher, as well as emphasised via objectivity, competence, and respect for intellectual property during the course of the study. Once they had decided to participate, each participant was asked to sign an informed consent form and a copy provided for their own records.

Managing risks from potential breach of confidentiality

The study was conducted with a high level of confidentiality and the staff involved were assured of the protection of their data before, during and after the study. The data collected during the study were stored in a locked filing cabinetand password protected in a computer located at the home of the researcher in Saudi Arabia. The electronic copy and hard copies were transferred securely to the custody of the main supervisor at the University of Salford.

Reflexivity

In conducting the reflexivity exercises for this study, I examined various theories and models of reflective cycles. My first preference was the model proposed by Steve Kemmis (1985), which divides the exercise of reflection into three areas, specifically technical or problem-solving reflection, practical reflection, and critical reflection. Another model I considered was Johns' (1995) proposal of guided questions for structured reflection, but I felt that Johns' model did not encompass all aspects of my reflection through the course of this study. Thus, I decided to use the Gibbs Model (1988), which I felt was a more comprehensive reflexive model that includes all aspects of the developments I experienced throughout this study. The Gibbs model helped me break down the experience of conducting this study with regard to my development personally and academically as a researcher.

Following the Gibbs Model, I was able to examine the key learning points that have been essential in this research journey, not only from an academic standpoint, but also from a personal perspective. As part of my reflection, I reviewed the essence of the learning journey for this PhD. Given that I designed the intervention after a long discussion with my supervisor to select the component and the model of the intervention, it became clear to me that my own approach, the way in which I conduct myself, simply being myself a Saudi woman, a

researcher, lecturer in the same place were the sample were recruited all played a significant part in the success or failure of the intervention

Conducting this study involved going out of my comfort zone in two aspects. On the academic aspect, conducting this study was facilitated by the use of many different tools, most of which I learned to use specifically for this study. These tools helped keep my ideas and notes organized as I went through the paces of conducting the study. One such example is the use of software such as Microsoft Project and Endnote to help me manage my bibliographical sources as I pored through existing research on EI. The Saudi Digital Library was also a great help in this regard, as it provided me with a source of studies that were conducted on EI in recent years. On the personal aspect, I also had to evaluate my personal competence to conduct this study, especially when it comes to communicating. English is not my first language, and I was very apprehensive about my ability to effectively conduct the workshops. This concern was addressed by conducting the pilot study, where the pilot study participants helped me identify areas where I can improve when it came to conducting the actual workshops. Having the practice run through the workshop also helped give me more confidence to conduct the workshop with the study participants. Lastly, on the personal aspect, the cultural adjustment to conducting research in the UK was also a challenge, although my main data collection was in Saudi Arabia. In particular, I had to learn the research culture which was different from that in Saudi Arabia.

Also on the personal aspect of conducting this research study, I was intensely aware of my own position within the group, partly as the organizer and partly as a participant. I came to understand that the driving force behind this study was my passion about the topic. It was also exciting to hear the participants expressing their feelings of learning about the value of the intervention, and to see them enjoying what they were learning. It was very engaging for me to hear the thoughts of the participants about the need for such interventions. Some of the participants also discussed their personal situations and linked it with purpose of implementing or practicing the skills of EI, and I was a witness to how they enjoyed applying new understanding to their work and personal situations.

One key concern in the course of conducting this study was the strict observance to Saudi culture with regard to the separation of men and women. In compliance with this cultural tradition, the researcher separated male and female participants during the workshop. Likewise, workshops with the male participants were conducted by the researcher from behind a screen,

and all materials were distributed by an assistant. With female participants, the researcher conducted the workshops without any restrictions. During preparations for conducting the study, I was expecting that the male and female participants would be happy to sit together and share the same room, given that this is an academic environment. This assumption was based on my experiences sitting with men in the same school were I used to work, on occasions such as the school weekly meeting. However, with regard to the informal atmosphere of the intervention, the managerial office was adamant in insisting on gender separation during the workshop, both for cultural reasoning and to maximize the beneficial intake of the intervention component and activities. Thus, this issue was addressed by provided separated intervention.

In summary, this reflexivity exercise has helped me identify areas where I have evolved in terms of my personal perspective and my academic experience. I have learned that my limitations are not insurmountable, so long as one is able to make concessions with regard to behavior and effort. These are experiences and learning that I carry with me as I proceed through the next phase of my academic journey, which is postdoctoral research.

Summary

The aim of the current study is to add into the existing knowledge of evaluating the effect of emotional intelligence training on the leadership style, emotional intelligence level, power perception and self-efficacy in an academic atmosphere. This objective was achieved by conducting a quantitative, quasi-experimental study to assess the effectiveness of a one-day EI training intervention. Pre-test and post-test data were collected from control and intervention groups, with regard to their EI, leadership styles, self-efficacy, and perception of power. The data were analysed using Man-Whitney U tests, Friedman tests, and Wilcoxon signed ranks tests to address the research questions of the study. The results of the data analysis procedures described in this chapter are discussed in further detail in the next chapter of this study. The final chapter of the study contains a discussion of the data analysis results in relation to the existing literature, as well as the conclusions and recommendations made based on these results.

Chapter Six: Results

Introduction

This chapter contains the results of statistical analysis. The main aim of the research is to assess the impact of emotional intelligence (EI) training program on EI levelspre-intervention, at immediate post-intervention, 1 month follow up, and 3 month follow up among participants, in comparison with acontrol group. Additionally, the aim is to assess the impact of the EI training program on individuals' transformational leadership, self-efficacy and sense of power at workplace. In order to do so and to ensure comparability over time, only data obtained from individuals who participated in each of the four stages of the research are included in these analyses. For ease of reference, pre-intervention (baseline) findings are referred to as T1, immediate post-intervention findings as T2, one month follow-up results as T3 and three month follow-up results as T4. The plan for data analysis has been outlined in the previous chapter.

Demographic data of the participants

In all, 168 participants participated in the study. The participants were divided into two groups; control and intervention.

The ***intervention group*** consisted of 85 participants; 43 (50.6%) were females and 42 (49.4%) were males. The minimum age of the participants in the intervention group was 25 years whereas the maximum age was 59 years (mean = 41.85, SD=8.43). The minimum years of experiences at current job of the participants in the intervention group was 4 years while the maximum years of experience in their current job was 13 years (mean = 5.47, SD=1.36). The other demographic data of the participants in the intervention group are presented in Table 15.

The ***control group*** consisted of 83 participants, of which 44 (53%) were females and 39 (47%) were males. The minimum age of the participants in the control group was 23 years whereas the maximum age was 73 years (mean = 35.71, SD=8.65). The minimum years of experiences at current job of the participants in the control group was 1 year while the maximum years of experience in their current job was 15 years (mean = 2.60, SD=2.27).

In terms of marital status the majority of the intervention group (83.5%) and the control group (69.9%) were married. As for the education level the majority have PhD level of education in the Intervention group (48.2%) and in the Control group (48.2%). When looking at the occupation, it was divided into 6 categories (detailed in Table 15); however they were further divided into manager (dean, vice dean, vice dean coordinator, head of department and head of department coordinator) and non-mangers (faculty members). In the intervention group there were 64.7% non-mangers versus 35.3% managers. Similarly in the control group there were 69.9% non-mangers and 30.1% managers.

Table 15: Demographic data of the participants in the intervention group and the control group

		Intervention Group(IG)	**Control Group(CG)**
		N (%)	**N (%)**
Gender	Male	42 (49.4)	39 (47)
	Female	43 (50.6)	44 (53)
Marital status	Single	10 (17.6)	14 (16.9)
	Married	71 (83.5)	58 (69.9)
	Divorced	4 (4.7)	11(13.3)
Education	Bachelor	15 (15.7)	13 (15.7)
	Master	29 (36.1)	30 (36.1)
	PhD	41 (48.2)	40 (48.2)
Occupation	Dean	2 (2.4)	2 (2.4)
	Vice dean	2 (2.4)	2 (2.4)
	Vice dean coordinator	2 (2.4)	2 (2.4)
	Head of department	10 (11.8)	7 (8.4)
	Department	14 (16.5)	12 (14.5)
	Faculty member	55 (64.7)	58 (69.9)

Normality tests

Prior to statistical analysis, the data was tested for normality using Shapiro-Wilk test (Field, 2013). The results (see appendix 11) indicated that the data deviated from normality ($p<0.05$). In order to see if the data might meet parametric assumptions, transformations of the data were attempted using SPSS. In attempting to achieve normality, neither the log or square root transformations achieved this aim. Therefore, the data were treated as non-parametric for the purposes of these analyses.

Alpha coefficients for scales

This section is concerned with the reliability of scales and subscales used within this study, particular internal reliability measured through Cronbach's alpha. This type of reliability reflects the consistency between items within a scale or a subscale, i.e. the extent to which items/questions measures for the same things. As can be observed from table 16 below, Cronbach's alpha which has a value between 0 and 1, reflects a good reliability in all scales and subscales. Overall Emotional Intelligence showed 0.97, while its subscales also showed good level for reliability. Sense of power showed a reliability of 0.70 while Self-Efficacy had a reliability score of 0.82. Multifactor leadership scale had a reliability score of 0.82, while individually its subscales ranged in reliability between 0.67-0.79. Overall, all scales and subscales showed good level of reliability using Cronbach's alpha coefficient.

Table 16: Cronbach's alpha measuring internal consistency across scales and subscales

Scales/subscales	Number of Items	Cronbach's alpha
Emotional intelligence overall	33	0.97
Perception of emotion	10	0.93
Managing own emotion	9	0.91
Managing other emotion	8	0.90
utilization of emotion	6	0.85
Sense of Power	8	0.70
Self-Efficacy	10	0.82
Multifactor Leadership overall	21	0.82
Idealized influence	3	0.69
Inspirational motivation	3	0.75
Intellectual stimulation	3	0.72
Individualized consideration	3	0.79
Contingent reward	3	0.69
Management-by-exception	3	0.69
Laissez-faire	3	0.67

*IG: Intervention group, CG: Control group

Within group comparisons: EI training impact

This part of the analysis is concerned with measuring for differences over the four data collection points; this will determine the impact of EI training over time; this was conducted for the intervention group (IG). Differences are also measured using a control group (CG) which received no EI training. Impact is measured by looking at EI subscales, self-efficacy, sense of power and multifactor leadership subscales (see appendix 15 and 16).

EI training impact on EI-subscales:

This subsection looks at differences over time (T1-T4) with the EI subscales. In other words this part looks at whether the EI significantly improved EI dimensions over time. The results are presented in Table 17.

Table 17: Within group differences for EI over four times using Friedman's test

	Group		T1	T2	T3	T4	χ^2	Sig.
Perception of emotion	CG	Median	2.50	2.50	2.80	2.40	5.11	0.164
		Range	3.70	3.70	3.80	3.60		
	IG	Median	2.80	3.10	4.00	3.70	97.93	0.000
		Range	3.50	3.00	2.90	3.30		
Managing own emotion	CG	Median	3.11	3.11	3.22	3.22	3.89	0.273
		Range	3.89	3.89	3.92	4.00		
	IG	Median	3.22	3.22	4.00	3.89	49.25	0.000
		Range	3.78	3.56	3.00	3.44		
Managing other emotion	CG	Median	2.75	2.88	3.00	2.75	4.29	0.232
		Range	3.50	3.50	3.75	3.75		
	IG	Median	3.00	3.00	4.13	3.75	53.92	0.000
		Range	3.75	3.38	3.25	3.38		
Utilization of emotion	CG	Median	3.17	3.17	3.17	3.33	1.07	0.785
		Range	3.67	3.67	3.83	3.83		
	IG	Median	3.33	3.17	4.17	3.83	50.87	0.000
		Range	3.67	3.67	3.33	3.50		

*IG: Intervention group, CG: Control group

* For the lower and upper values of the ranges presented in the table see appendix 12.

Impact on perception of emotion

The Friedman test was conducted to assess the impact of the EI training programme on participants' perceptions of emotion at the four time points (within the intervention group). The four times refer to pre-intervention/baseline (T1), just after intervention (T2), 1 month follow up (T3) and 3 months follow up (T4). The results indicated that there was a statistically significant increase in perception of emotion scores over the three times following the baseline, χ^2= 97.93, p <0.001 (T1=2.80, T2=3.10, T3=4.00, T4=3.70). Post-hoc Wilcoxon Signed Rank tests using the Bonferroni adjustment confidence interval (CI) were conducted to investigate which of the perception of emotion scores were statistically different from one another. The results indicated that the perception of emotion score significantly increased between T1 and T4 and between T1 and T3 (p <0.001). The results are presented in Table 17. By looking at the

control group over time, no significant difference across the four times was found when measuring for perception of emotion, χ^2=5.11, p>0.05.

Impact on managing own emotion

By inspecting data from he Intervention group, the results of the Friedman test indicated that there was a statistically significant difference in managing own emotion scores across the four time points i.e. a significant increase from baseline, χ^2= 49.25, p <0.001. Inspection of the median score indicated that managing own emotion scores at T1 (3.22) was the same as that at T2 (3.22). However, managing own emotion scores increased at T3 (4.00) and decreased slightly at T4 (3.88). The results of post-hoc Wilcoxon Signed Rank test indicated that the differences in managing own emotion scores at both T1 andT2 versus T3 was statistically significant and compared to T4 (p <0.001). As for the control group no significant differences across time were found, χ^2=3.89, p>0.05.

Impact on managing others' emotion

The results of the Friedman test indicated that there was a statistically significant increase in the IG median scores of managing others' emotions over the three times following baseline, χ^2= 53.92, p <0.001. By examining the median scores of managing others' emotion, it was found that T1 (3.00) was the same as T2 (3.00). However, managing others' emotion scores increased at T3 (4.13) and decreased slightly at T4 (3.75). The results of Post-hoc Wilcoxon Signed Rank tests indicated that the managing others' emotion scores at both pre-intervention and just after intervention (T2) were significantly lower compared to T3 and T4 (p<0.05). On the other hand, no significant difference across times when observing scores in the control group, χ^2=4.29, p>0.05.

Impact on utilization of emotion

The Friedman test indicated that there was a statistically significant difference in utilization of emotion scores across the four time points, χ^2= 50.87, p <0.001. The median score of the utilization of emotion scores over time are presented in Table 17. There was improved utilization of emotion at T3 (4.16) and T4 (3.83) compared to T1 (3.33) and T2 (3.16). The results of post-hoc Wilcoxon Signed Rank test indicated that there was a statistically significant difference in utilization of emotion scores between T1/T2 compared to T3 and compared to T4

(p <0.01). No significant difference across times when observing scores in the control group, χ^2=4.29, p>0.05.

Training impact on sense of power and self-efficacy

This part looks at the changes in sense of power and self-efficacy as a result of the EI intervention. The results are presented in Table 18.

Impact on sense of power

When looking at the intervention group, the Friedman's test indicated that there was no statistically significant difference in sense of power across the four time points for the IG, χ^2= 1.82, p >0.05or when observing scores in the control group, χ^2=4.31, p>0.05.

Impact on self-efficacy

The results of the Friedman test indicated that there was a statistically significant difference in self-efficacy scores of the IG across the four time points, especially an increase in T3 and T4, χ^2= 53.69, p <0.001. The median scores (Table 18) show the variations where T3 (3.80) and T4 (3.60) showed higher median scores compared to T1 (3.30) and T2 (3.40). The results of post-hoc Wilcoxon Signed Rank test indicated significant increase between T1 and T3 and T4 (p <0.01). There were no significant differences across time when observing scores in the control group, χ^2=4.05, p>0.05.

Table 18: Within group differences for sense of power and self-efficacy, over four times using Friedman's test

	Group		**T1**	**T2**	**T3**	**T4**	χ^2	**Sig.**
Sense of Power	CG	Median	3.88	3.88	3.88	4.00	4.31	0.230
		Range	4.38	4.25	4.00	2.75		
	IG	Median	4.00	4.13	4.13	4.13	1.82	0.612
		Range	5.00	4.25	4.25	4.25		
Self-Efficacy	CG	Median	3.20	3.20	3.20	3.10	4.05	0.256
		Range	1.60	3.00	1.80	1.50		
	IG	Median	3.30	3.40	3.80	3.60	53.69	0.000
		Range	2.50	2.90	1.00	2.60		

*IG: Intervention group, CG: Control group

* For the lower and upper values of the ranges presented in the table see appendix 13

Training impact on multifactor leadership subscales:

This part looks at the impact of EI intervention on the multifactor leadership subscales, results presented in table 19 below.

Table 19: Within group differences for leadership subscales over four times using Friedman's test

	Group		T1	T2	T3	T4	χ^2	Sig.
Idealized Influence	CG	Median	8.00	8.00	8.00	9.00	2.59	0.459
		Range	9.00	9.00	8.00	9.00		
	IG	Median	8.00	8.00	10.00	10.00	97.56	0.000
		Range	10.00	12.00	5.00	9.00		
Inspirational Motivation	CG	Median	7.00	9.00	8.00	9.00	14.30	0.003
		Range	9.00	8.00	9.00	8.00		
	IG	Median	8.00	8.00	11.00	10.00	71.31	0.000
		Range	10.00	9.00	10.00	10.00		
Intellectual Stimulation	CG	Median	7.00	7.00	8.00	8.00	6.84	0.051
		Range	9.00	10.00	9.00	9.00		
	IG	Median	7.00	8.00	9.00	9.00	16.25	0.001
		Range	12.00	11.00	8.00	10.00		
Individualized Consideration	CG	Median	8.00	8.00	8.00	8.00	5.98	0.113
		Range	10.00	10.00	9.00	9.00		
	IG	Median	8.00	8.00	9.00	9.00	18.03	0.000
		Range	10.00	8.00	7.00	9.00		
Contingent Reward	CG	Median	7.00	7.00	8.00	8.00	3.56	0.314
		Range	8.00	8.00	9.00	9.00		
	IG	Median	7.00	8.00	8.00	9.00	2.85	0.416
		Range	9.00	11.00	9.00	11.00		
Management-by-exception	CG	Median	7.00	7.00	7.00	7.00	1.54	0.673
		Range	9.00	9.00	7.00	8.00		
	IG	Median	6.00	8.00	8.00	7.00	19.44	0.000
		Range	9.00	11.00	9.00	11.00		
Laissez-faire Leadership	CG	Median	6.00	7.00	7.00	7.00	1.40	0.707
		Range	11.00	11.00	9.00	11.00		
	IG	Median	7.00	6.00	4.00	5.00	29.64	0.000
		Range	11.00	12.00	12.00	12.00		

*IG: Intervention group, CG: Control group

* For the lower and upper values of the ranges presented in the table see appendix 14

Impact on idealized influence

The results of theFriedman test indicated that there was a statistically significant difference in idealized influence of IG scores across the four timepoints, χ^2= 97.56, p <0.001. Inspection of the median scores for all four times can be observed in Table 19. The median scores show similar scores at T1 (8) and T2(8) however there was an increase at T3 (10) and T4 (10); the difference was shown when using Post-hoc Wilcoxon Signed Rank test which showed statistically significant difference between both T1 and T2 compared to T3 and compared to T4 (p <0.001). No significant difference across times was observed in the control group, χ^2=2.59, p>0.05.

Impact on inspirational motivation

The results of theFriedman test indicated that there was a statistically significant difference in inspirational motivation scores across the four time, χ^2= 71.31, p <0.001. There was an increase from T1 (8) and T2 (8) to T3 (11) and a slight decrease at T4 (10). Post-hoc Wilcoxon Signed Rank test indicated that there were statistically significant between both T1 andT2 compared to T3 and T4 (p <0.001) (see Table 19). A significant increase across times was found when observing scores in the control group, χ^2=14.30, p<0.01. Wilcoxon Signed ranked test showed significant differences between T1 and T3/T4 (p<0.05). T1 and T2 reflected similar median scores.

Impact on intellectual stimulation

The potential impact of EI intervention on intellectual stimulation was tested over the three time points following baseline. Results of the Friedman test indicated that there was a statistically significant difference in intellectual stimulation scores across the four time points, χ^2= 16.25, p <0.001. Inspection of the median scores across groups showed increase in intellectual stimulation from T1 (7) to T2 (8) and at T3 (9) and T4 (9). Post-hoc Wilcoxon Signed Rank test indicated significant difference between T1 and T4 (p <0.001) (see Table 18). No significant difference across times was observed in the control group, χ^2=6.84, p>0.05.

Impact on individualized consideration

The results of the Friedman test indicated that there was a statistically significant difference in individualized consideration scores across the four time points, χ^2= 18.03, p

<0.001. By looking at the IG median scores, there was an increase from T1/T2 (8) to T3 (9) and T4 (9). Post-hoc Wilcoxon Signed Rank tests indicated that individualized consideration scores increased from T1/T2 to T3 and T4 (p <0.001). No significantdifference across times were observed in the control group, χ^2=5.97, p>0.05.

Impact on contingent reward

The contingent reward subscale was not shown to increase in the EI intervention group over time. The results of theFriedman test indicated that there was no statistically significant difference (p>0.05) in contingent reward scores across the four time points, χ^2= 2.85, p = 0.416. Inspection of the median scores showed an increase from T1 (7) to T4 (9) but T2 and T3 were similar in the median scores (8). No significant difference across times were observed in the control group, χ^2=3.55, p>0.05.

Impact on management by exception

EI intervention was shown to result in an increase in management by exception. The results of the Friedman test indicated that there was a statistically significant difference in management by exception scores across the four time points, χ^2(3, 85) = 19.44, p <0.001. Median scores across times showed that there was an increase from T1 (6) to T2 (8) and T3 (8) and T4 (7). Post-hoc Wilcoxon Signed Rank tests indicated that the differences in management by exception scores arose from significant increases from T1 to T2 and compared to T3 (p <0.001). No significant difference across times was observed in the control group, χ^2=1.54, p>0.05.

Impact on laissez-faire

The results of the Friedman test indicated that there was a statistically significant difference in laissez-faire scores across the four time points, χ^2= 29.64, p <0.001. The median scores across the four times indicated that laissez-faire scores reduced from T1 (7) to T2 (6) to T3 (4) with an increase at T4 (5). Post-hoc Wilcoxon Signed Rank test indicated significant decreases between T1/T2 and T3 (p <0.001). No significant difference across times was observed in the control group, χ^2=1.39, p>0.05.

Differences between control and intervention groups

Differences between the control group and the intervention group were tested across EI subscales, as well as Sense of Power, Self-efficacy and Multifactor Leadership subscales (see appendix 17).

Emotional intelligence subscales between groups:

In this section, the results are reported from all four subscales of EI and illustrate comparability between the intervention and control groups at baseline, but a pattern of differences thereafter between the intervention and the control groups.

Differences in perception of emotion

Mann-Whitney U tests were conducted to investigate if there was a statistically significant difference between the control and the intervention groups in perception of emotion at each of the four times, the results of the Mann-Whitney U Tests indicated no significant differences between the control and the intervention groups at T1 and T2. There was a statistically significant difference between both group in the perception of emotion at T3 (after 1 month) where the control group (2.80) showed lower median score compared to the intervention group (4.00), $Z= -6.45$, $p <0.001$. Difference was also observed at T4 (3 months after intervention) where the control group (2.40) showed lower median score compared to the intervention group (3.70), $Z= -5.95$, $p <0.001$. The results are presented in Table 20.

Differences in managing own emotion

When looking at differences in managing own emotion, the results of Mann-Whitney U Test indicated no significant differences between the control and the intervention groups at T1 and T2. Significant difference was observed at T3 where the intervention group (4) showed a higher score compared to the control group (3.22), $Z= -5.24$, $p< 0.001$. In addition, there was a statistically significant difference between the both groups at T4, the intervention group (3.89) had a higher score compared to the control group (3.22) $Z= -4.14$, $p < 0.001$. The results are presented in Table 20.

Differences in managing others' emotion

The results of Mann-Whitney U Test indicated that there was no statistically significant difference between control and intervention groups at T1 and T2 when examining the subscale

managing others' emotions. However, there was a statistically significant difference post-intervention between managing others' emotion score at T3 between the control (3.00) and intervention group (4.13), Z= -5.67,p <0.001. Also, the intervention group (3.38) scored significantly higher compared to the control (2.75) at T4, Z= -5.07, p <0.001. The results are presented in Table 20.

Differences in utilization of emotion

Mann-Whitney U Test conducted and showed that there was no statistically significant difference between both groups in the utilization of emotion at T1 and T2. Moreover, similar to the previous EI subscale, at T3 the intervention group showed significantly higher score (3.33) compared to the control (3.17), Z= -5.43, p <0.001. Additionally a statistically significant difference between the utilization of emotion was found at T4 where the intervention group (3.50) showed a significantly higher score compare to the control (3.33), Z= -3.98, p<0.001. The results are presented in Table 20.

Table 20: Mann-Whitney U test for difference between CG and IG in EI subscales over the four times

		CG		IG		U test	
	Time	**Median**	**Range**	**Median**	**Range**	**Z**	**Sig.**
Perception of emotion	1	2.50	3.70	2.80	3.50	-0.571	0.568
	2	2.50	3.70	3.10	3.00	-1.780	0.075
	3	2.80	3.80	4.00	2.90	-6.454	0.000
	4	2.40	3.60	3.70	3.30	-5.955	0.000
Managing own emotion	1	3.11	3.89	3.22	3.78	-1.085	0.278
	2	3.11	3.89	3.22	3.56	-1.007	0.314
	3	3.22	3.92	4.00	3.00	-5.246	0.000
	4	3.22	4.00	3.89	3.44	-4.143	0.000
Managing other emotion	1	2.75	3.50	3.00	3.75	-1.375	0.169
	2	2.88	3.50	3.00	3.38	-1.628	0.103
	3	3.00	3.75	4.13	3.25	-5.671	0.000
	4	2.75	3.75	3.75	3.38	-5.072	0.000
Utilization of emotion	1	3.17	3.67	3.33	3.67	-0.995	0.320
	2	3.17	3.67	3.17	3.67	-0.583	0.560
	3	3.17	3.83	4.17	3.33	-5.439	0.000
	4	3.33	3.83	3.83	3.50	-3.989	0.000

*IG: Intervention group, CG: Control group

* For the lower and upper values of the ranges presented in the table see appendix 12

Sense of power and self-efficacy between groups:

This section reports the comparability between the intervention group and the control groupin the sense of power scale and the self-efficacy scale at baseline, and thereafter any differences arising.

Differences in sense of power

A Mann-Whitney U test was conducted to assess if there was any statistically significant difference between groups in the Sense of Power score at the four time points. The results indicated no significant difference at T1, T3, and T4. However there was a significant difference between the intervention (4.13) and the control group (3.88) at T2 immediately post-intervention, Z=-2.13, p<0.05 (see Table 21).

Differences in self-efficacy

The results of Mann-Whitney U Test indicated that there was no statistically significant difference between groups in self-efficacy scores at T1 and T2. However there was a statistically significant difference between both groups at T3 where the intervention group (3.80) showed a higher score compared to the control (3.20), Z= -4.96, *p <0.001*. Also, there was a statistically significant difference at T4, the intervention group (3.60) showed a higher score compared to the control (3.10), Z= -8.87, *p <0.001*. The results are presented in Table 21.

Table 21: Results of Mann-Whitney U test comparing participants' sense of power and self-efficacy at the four timepoints

		CG		IG		U test	
	Time	**Median**	**Range**	**Median**	**Range**	**Z**	**Sig.**
Sense of Power	1	3.88	4.38	4.00	5.00	-0.943	0.346
	2	3.88	4.25	4.13	4.25	-2.137	0.033
	3	3.88	4.00	4.13	4.25	-1.075	0.283
	4	4.00	2.75	4.13	4.25	-0.947	0.344
Self-Efficacy	1	3.20	1.60	3.30	2.50	-0.829	0.407
	2	3.20	3.00	3.40	2.90	-0.531	0.595
	3	3.20	1.80	3.80	1.00	-8.867	0.000
	4	3.10	1.50	3.60	2.60	-4.962	0.000

*IG: Intervention group, CG: control group
* For the lower and upper values of the ranges presented in the table see appendix 13

Leadership styles compared between groups

This section reports group comparisons between the control and the intervention groups. Differences are measured for all leadership subscales.

Differences in idealized influence

Similar to previous tests, the Mann-Whitney U Test indicated that, there was no statistically significant difference in idealized influence scores between control and intervention groups at T1 and T2; however significant difference was observed in T3 and T4. At T3, the intervention group showed higher median score (10) compared to the control (8), Z= -6.58, $p < 0.001$. A similar pattern was observed at T4 where the intervention group (10) showed a higher score compared to control (9), Z= -7.10, $p < 0.001$. The results are presented in Table 22.

Differences in inspirational motivation

There was no statistically significant difference in inspirational motivation at T1and T2 between the control and the intervention group. Significant difference was observed at T3 where the intervention group had a higher score of inspirational motivation (11) compared to the control (8), Z= -7.55, $p < 0.001$. Similarly significant differences were found at T4, the intervention group had a higher score (10) compared to the control (9), Z= -5.611, $p < 0.001$. The results are presented in Table 22.

Differences in intellectual stimulation

The results of Mann-Whitney U Test indicated that there was no statistically significant difference between groups in the intellectual stimulation subscale at the four time points ($p>0.05$). The results are presented in Table 22.

Differences in individualized consideration

It was shown, using Mann-Whitney U Test, that there was no statistically significant difference in individualized consideration score at T1 between the control and the intervention groups. However, there was a statistically significant difference at T2, although both groups had a similar median score of 8, Z= -2.09, $p <0.05$.At T3, the intervention group (8) showed a significantly higher score compared to the control (8), Z= -3.51, $p <0.001$. In addition, there

was a statistically significant difference at T4 where the intervention group (9) showed a higher score compared to the control (8), Z= -2.37, *p <0.05*. The results are presented in table 22.

Differences in contingent reward

The results of Mann-Whitney U Test indicated that, there was no statistically significant difference in the contingent reward of the participants in the control and intervention groups at the four time points (p>0.05), (Table 22).

Differences in management by exception

Mann-Whitney U Test indicated that there were no differences between the control and the intervention groups in management by exception at all times, although at T3 IG scores were higher than the CG at levels approaching statistical significance (p = 0.06). The results are presented in table 22.

Differences in laissez-faire

Finally, the results of Mann-Whitney U Test indicated significant differences in laissez-fairebetween both groups at T2 and T3. At T3, the intervention group (4) showed significantly lower score compared to the control (7), Z= -4.79, p <0.001. Similarly, there was a statistically significant difference at T4 where the intervention group again showed a lower median score (5) compared to the control (7), Z= -4.06, p <0.001. The results are presented in table 22.

Table 22: Mann-Whitney U test for difference between CG and IG in in leadership subscales over the four times

		CG		IG		U test	
	Time	**Median**	**Range**	**Median**	**Range**	**Z**	**Sig.**
Idealized Influence	1	8.00	9.00	8.00	10.00	-0.974	0.330
	2	8.00	9.00	8.00	12.00	-0.094	0.925
	3	8.00	8.00	10.00	5.00	-6.580	0.000
	4	9.00	9.00	10.00	9.00	-7.102	0.000
Inspirational Motivation	1	7.00	9.00	8.00	10.00	-0.043	0.966
	2	9.00	8.00	8.00	9.00	-1.190	0.234
	3	8.00	9.00	11.00	4.00	-7.556	0.000
	4	9.00	8.00	10.00	10.00	-5.611	0.000
Intellectual Stimulation	1	7.00	9.00	7.00	12.00	-0.489	0.625
	2	7.00	10.00	8.00	11.00	-1.445	0.148
	3	8.00	9.00	9.00	8.00	-1.775	0.076
	4	8.00	9.00	9.00	10.00	-0.668	0.504
Individualized Consideration	1	8.00	10.00	8.00	10.00	-0.904	0.366
	2	8.00	10.00	8.00	8.00	-2.090	0.037
	3	8.00	9.00	9.00	7.00	-3.511	0.000
	4	8.00	9.00	9.00	9.00	-2.373	0.018
Contingent Reward	1	7.00	8.00	7.00	9.00	-0.027	0.978
	2	7.00	8.00	8.00	11.00	-1.705	0.088
	3	8.00	9.00	8.00	9.00	-0.630	0.528
	4	8.00	9.00	9.00	11.00	-0.476	0.634
Management-by-exception	1	7.00	9.00	6.00	9.00	-1.415	0.157
	2	7.00	9.00	8.00	11.00	-1.423	0.155
	3	7.00	7.00	8.00	9.00	-1.881	0.060
	4	7.00	8.00	7.00	11.00	-1.341	0.180
Laissez-faire Leadership	1	6.00	11.00	7.00	11.00	-0.018	0.986
	2	7.00	11.00	6.00	12.00	-1.934	0.053
	3	7.00	9.00	4.00	12.00	-4.799	0.000
	4	7.00	11.00	5.00	12.00	-4.060	0.000

*IG: Intervention group, CG: Control group

* For the lower and upper values of the ranges presented in the table see appendix 14

Correlations: age, experience and EI subscales:

Spearman's rho correlation coefficient was utilized to measure the correlation between Emotional Intelligence subscales, Sense of Power, Self-Efficacy and Leadership subscales. In addition, correlations between EI subscales and selected demographic factors were examinedatT1 and T4 across all participants, as well as within the IG and CG, to determine any change in these.

Overall correlations at T1 and T4

Spearman's rho correlation coefficient was examined between EI subscales at T1 and T4, demographic information such as age and job experience (in years) were also included.

Age was found to have a significant positive correlation with three out of the four EI subscales at T4, i.e. perception of emotion ($rs = 0.165$, $p<0.05$), managing own emotions ($rs = 0.157$, $p<0.05$) and utilization of Emotion ($rs = 0.181$, $p<0.05$). Job experience was found to have a significant positive correlation with perception of emotion at T1 ($rs =0.315$, $p<0.01$) and at T4 ($rs=0.385$, $p<0.01$). Significant correlations were also found with managing own emotion (T4) ($rs=0.273$, $p<0.01$), utilization of emotion at T1 ($rs=0.272$, $p<0.01$) and at T4 ($rs=0.274$, $p<0.01$) and managing others' emotion at T1 ($rs=0.238$, $p<0.01$) and at T4 ($rs=0.306$, $p<0.01$). By observing the correlation coefficients between all EI subscales at T1 and T4, it was clear that there were significant positive correlations between all ($p<0.05$). The correlation coefficients and levels of significance can be observed in the Table 23.

The pattern of significant relationships between EI and both age and length of experience at T4, which is not as evident at T1, suggests that employees with greater life and work experience benefit over the time of the study, as the relationships between EI and these demographic variables build. To examine the role of the intervention in these relationships, the correlations were examined separately for the IG and CG.

Table 23: Spearman's rho correlation coefficient and significance between Age, Experience and EI subscales for the entire sample

	1	2	3	4	5	6	7	8	9	10
1.Age	1.000									
2.Experience	.413**	1.000								
3.Perception of emotion (T1)	.098	.315**	1.000							
4.Perception of emotion (T4)	.165*	.385**	.511**	1.000						
5.Managing own emotion (T1)	.169*	.122	.662**	.678**	1.000					
6.Managing own emotion (T4)	.157*	.273**	.690**	.708**	.669**	1.000				
7.Utilization of emotion (T1)	.139	.272**	.712**	.722**	.718**	.505**	1.000			
8.Utilization of emotion (T4)	.181*	.274**	.735**	.780**	.740**	.569**	.699**	1.000		
9.Managing other emotion (T1)	.136	.238**	.599**	.580**	.688**	.619**	.714**	.566**	1.000	
10.Managing other emotion (T4)	.140	.306**	.668**	.639**	.698**	.694**	.743**	.635**	.507**	1.000

*p<0.05, **p<0.01

Correlations for intervention group only

In this part of the analysis, spearman's rho correlation coefficient was conducted for the Intervention group only (85 participants). By observing the correlation coefficient in Table 24 below, it was found that Age only showed a significant positive correlation with perception of emotion at T4 (r_s=0.252, $p<0.05$). Experience on the other hand showed significant positive correlations with perception of emotion at T1 (r_s=0.301, $p<0.01$) and at T4 (r_s=0.291, $p<0.01$). Also experience had significant correlations with managing own emotion at T4 (r_s=0.298, $p<0.01$) and utilization of emotion at T1 (r_s=0.295, $p<0.01$) and at T4 (r_s=0.362, $p<0.01$). Finally significant positive correlations were found for experience with managing own emotions at T1 (r_s=0.231, $p<0.01$) and at T4 (r_s=0.335, $p<0.01$). This reflects a similar pattern to the overall correlation (control and intervention) although the correlation coefficients results here are slightly stronger, especially at T4. This might explain that the intervention has improved the strength of these relationships.

Table 24: Spearman's rho correlation coefficient and significance between Age, Experience and EI subscales for the intervention group only

	1	2	3	4	5	6	7	8	9	10
1.Age	1.000									
2.Experience	.421**	1.000								
3.Perception of emotion (T1)	.108	.301**	1.000							
4.Perception of emotion (T4)	.252*	.291**	.562**	1.000						
5.Managing own emotion (T1)	.167	.154	.677**	.668**	1.000					
6.Managing own emotion (T4)	.157	.298**	.697**	.731**	.723**	1.000				
7.Utilization of emotion (T1)	.168	.295**	.717**	.736**	.710**	.499**	1.000			
8.Utilization of emotion (T4)	.181	.362**	.824**	.786**	.751**	.580**	.704**	1.000		
9.Managing other emotion (T1)	.144	.231**	.572**	.584**	.667**	.608**	.732**	.547**	1.000	
10.Managing other emotion (T4)	.140	.335**	.629**	.739**	.692**	.690**	.771**	.682**	.553**	1.000

Correlations for control group only

Similar to the previous section, spearman's rho correlation coefficient was conducted for the Control group only (83 participants) results are presented in Table 25. Overall, it could be explained that there is a similar pattern of significant correlations with overall correlation and correlation within the intervention group.

Age only showed a significant positive correlation with perception of emotion at T4 (r_s=0.259, $p<0.05$), whereas experience showed significant positive correlations with perception of emotion at T1 (r_s=0.292, $p<0.05$) and T4 (r_s=0.212, $p<0.05$) and managing own emotions at T4 (r_s=0.300, $p<0.01$). Significant positive correlations were also found between experience and utilization of emotion at T1 (r_s=0.298, $p<0.01$), and T4 (r_s=0.302, $p<0.01$).Significant correlations were found with managing other emotion at T1 (r_s=0.255, $p<0.05$) and T4 (r_s=0.261, $p<0.05$). All EI subscales were positively correlated with each other at both times, reflecting a similar pattern to the results of the general correlation. Although it should be

reflected that the control had weaker correlations (overall) at T4 compared to the intervention group.

Table 25: Spearman's rho correlation coefficient and significance between Age, Experience and EI subscales for the control group only

	1	2	3	4	5	6	7	8	9	10
1.Age	1.000									
2.Experience	.411**	1.000								
3.Perception of emotion (T1)	.117	.292**	1.000							
4.Perception of emotion (T4)	.259*	.212*	.559**	1.000						
5.Managing own emotion (T1)	.173	.193	.670**	.674**	1.000					
6.Managing own emotion (T4)	.199	.300**	.682**	.670**	.718**	1.000				
7.Utilization of emotion (T1)	.152	.298**	.719**	.772**	.712**	.501**	1.000			
8.Utilization of emotion (T4)	.186	.302**	.724**	.786**	.708**	.483**	.694**	1.000		
9.Managing other emotion (T1)	.140	.255*	.569**	.599**	.670**	.618**	.713**	.599**	1.000	
10.Managing other emotion (T4)	.149	.261*	.599**	.601**	.679**	.609**	.729**	.623**	.501**	1.000

Differences based on gender by groups

Saudi Arabia is a Middle Eastern collectivist society where religion and culture play a big part of people's daily lives and activities. Additionally, gender segregation exists in many elements of the society hence it is important to test gender differences within this study.

By computing data a new variable was created categorising participants based on their gender and group type (Control-Men, Control-Women, Intervention-Men, Intervention-Women). Kruskal-Wallis tests were conducted to observe whether or not differences existed between the four groups, exploring whether men and women in the intervention group showed differences from men and women in the control group. This further clarified the usefulness of the EI intervention, for more details, graphs of the results are presented in Appendix 18.

Differences in EI subscales:

Tests of differenceswere carried out to compare gender in the control and intervention group. No differences in EI subscales were found at T1 between male, female from the intervention group and male, female from the control group. However a significant difference between the four groups was found in the *perception of emotion* subscale where femalesin the intervention groupscored higher than the other three groups at T2 (χ^2=11.63, p<0.01), at T3 (χ^2=44.82, p<0.001) and at T4 (χ^2=36.74, p<0.001); in the intervention group, both males and female showed similar median scores and both had higher medians when compared to their counterparts in the control group.

Differences were found when looking in *Managing own emotions* at T3 (χ^2=29.57, p<0.001) and at T4 (χ^2=18.01, p<0.001); no difference between genders in the intervention group, however both males and females showed higher scores compared to their counterparts in the control group.

There was a significant difference in *Managing others' emotion* at T2 (χ^2=10.35, p<0.001), T3 (χ^2=33.36, p<0.001), and T4 (χ^2=26.02, p<0.001); at all three times it was noted that the intervention group across both genders had higher median scores than their counterparts in the control group; with no obvious differences between genders.

Both males and females, in the intervention group compared to the control, showed higher median scores in *Utilization of emotions* at T3 (χ^2=32.03, p<0.001) and T4 (χ^2=16.45, p<0.001); no differences between both genders in the intervention group although females also scored slightly higher in the control group compared to male participants at both times, although not a statistically significant difference.

Gender, self-efficacy and sense of power:

Tests of difference showed no significant differences between groups when looking at *self-efficacy* (at T1 and T2) or*Sense of power* (at all times). Differences between groups were observed *in Self-efficacy* at T3 (χ^2=80.60, p<0.001) and T4 (χ^2=46.35, p<0.001); both males and females showed higher scores in the intervention group compared to their counterparts in the control. Within the intervention and the control groups gender differences were not observed.

Gender in multifactor leadership subscales:

Tests of difference showed no significant differences at T1 and T2 when looking at all leadership subscales ($p>0.05$). No differences were found between males and females in the control group and intervention group at any time point for intellectual stimulation, contingent reward and management-by-exception. However, tests of differences showed differences in *idealized influence* at T3 (47.01, $p<0.001$) and T4 ($\chi^2=50.79$, $p<0.001$). Both males and females showed higher scores in the intervention group compared to males/females in the control; with no differences between genders within each of the groups.

As for *inspirational motivation*, significant differences were observed at T2 ($\chi^2=8.67$, $p<0.05$), T3 ($X=58.24$, $p<0.001$) and at T4 ($\chi^2=32.85$, $p<0.001$), males and females in the intervention group showed higher scores compared to their counterparts in the control group.*Individualised consideration* varied across all four groups at T2 ($\chi^2=8.29$, $p<0.05$), T3 ($\chi^2=23.61$, $p<0.001$) and T4 ($\chi^2=13.70$, $p<0.001$). Both males and females had higher scores in the intervention group compared to counterparts in the control group, however females, compared to males, showed a pattern of higher scores in the control group at T2 and T4, whereas males had higher scores in the intervention group compared to females at both times.

Finally, *laissez-faire leadership* showed significant differences across groups at T1 ($\chi^2=8.74$, $p<0.05$), T3 ($\chi^2=30.58$, $p<0.001$) and T4 ($\chi^2=25.99$, $p<0.001$).No differences were found at T1 or T2, but at T3 and T4 males and females in the intervention group scored significantly lower than the control group.

Differences based on roles and groups

By computing data a new variable was created categorising participants based on their managerial or non-managerial role at the university and group type (Control-Manager, Intervention-Manager, Control-non manager, Intervention-non manager). Kruskal-Wallis test of differences was conducted to observe whether or not differences exist between the four groups when testing each of the four EI subscales, sense of power, self-efficacy and leadership subscales. Here, significant differences found based on the variables and time for more details a graphs of the results will be presented in Appendix 19.

Subgroup differences in EI subscales:

Tests of difference (Kruskal Wallis) showed variations between subgroups in the EI subscales at various times. By looking at *perception of emotion*, significant differences were found between groups at T3 (χ^2=48.22, p<0.001) and at T4 (χ^2=38.77, p<0.001), clearly the intervention group for both manager and non-manager had higher post-intervention median scores when compared to counterparts in the control group.

Tests of difference showed that *Managing own emotion* differed across groups at T3 (37.34, p<0.001) and T4 (χ^2=25.20, p<0.001), both role groups showed higher scores in the intervention group compared to their counterparts in the control group.

Tests of differences showed variations in *Managing other emotion* across groups at T3 (χ^2=42.02, p<0.012) and T4 (χ^2=32.21, p<0.001), managers and non-managers showed similar scores in the intervention group and both were higher than the control group.

Furthermore, tests of differences showed that*Utilization of emotion* was significantly different across groups at T3 (χ^2=38.96, p<0.001) and T4 (χ^2=35.18, p<0.001); at T3 and T4 managers and non-managers showed higher scores in the intervention group compare to managers and non-manager in the control group.

Subgroup differences in self-efficacy and sense of power

Tests of difference (Kruskal Wallis) showed no significant subgroup differences in sense of power at all four times. There were no differences in self-efficacy between these groups at T1, but post-intervention managers in the intervention group scoured significantly higher than the other 3 groups: T2 (χ^2=10.41, p<0.05), T3 (χ^2=81.25, p<0.001). At T3 and T4 both managers and non-managers in the intervention group scored higher in self-efficacy T3 (χ^2=81.25, p<0.001) and T4 (χ^2=26.07, p<0.001) (See appendix 19).

Subgroup differences in multifactor leaderships scales:

Tests of difference (Kruskal Wallis) mainly showed no differences between the control and intervention group at any time point for intellectual stimulation, contingent reward and management-by-exception. While for the other subscales no significant differences were found in leadership subscales at T1 and T2.

When testing differences within Idealized influence, significant differences were found between groups at T3 (χ^2=81.25, p<0.001) and T4 (χ^2=26.07, p<0.001) both managers and non-managers showed higher scores in the intervention group compared to their counterparts in the control group. Tests of differences showed that Inspirational motivation was different across groups at T3 (χ^2=59.57, p<0.001) and T4 (χ^2=36.73, p<0.001) where managers and non-managers showed higher scores in the intervention group compared to their counterparts in the control group.

Tests of differences showed that Individualised consideration also differed across groups at T3 (χ^2=16.21, p<0.01) and T4 (χ^2=12.95, p<0.01): managers and non-managers showed higher scores in the intervention group compared to managers and non-managers in the control group.

Finally, tests of difference reflected significant differences in laissez-faire leadership at T3 (χ^2=23.06, p<0.001) and at T4 (χ^2=17.58, p<0.01), managers and non-managers in the intervention showed lower scores compared to the manager and non-manager in control group.

Summary of results

Firstly this chapter looked at differences over time (T1-T4) in all EI subscales, as well as sense of power, self-efficacy and multifactor leadership subscales. This was conducted to see whether the EI intervention resulted in improvements among the intervention group compared to the control group. To evaluate the impact of emotional intelligence training within the intervention group, Friedman's testswere conducted to compare the outcome measures within the intervention group at each of the four time periods and non-parametric Wilcoxon's tests were conducted to identify where the differences occurred. From the Friedman's tests the median values of most of the variables indicated an increase overtime, i.e. perception of emotion, managing own emotions, managing others' emotions, utilization of emotions, self-efficacy, inspirational motivation and intellectual stimulation, individualized consideration, idealized influence while laissez-faire leadership style scores reduced over time. For some variables median values scores remained the same pre-test (T1) and post-test (T2) but indicated an increase at the one month (T3) and/or three month(T4) follow up test, i.e. managing own emotion, managing other emotion, utilization of emotion, idealized influence and individualized consideration.

However, according to the Friedman's tests two of the scales: sense of power and contingent reward showed no statistically significant change (increase/decrease) over the four timepoints. Mann-Whitney U tests identified differences between the intervention and control groups in each of the four-time point of the analysis. There were no (or few) significant differences between the groups at pre-test (T1) (indicating comparability) and directly post-test (T2) (indicating no immediate effect of the workshop/intervention). However, the intervention group scored significantly higher than the control group at one-month (T3) and three month (T4) follow up in most of the study variables. Sense of power and management by exception did not significantly differ between the control and the intervention group in all four times.

Correlations wereexplored between Emotional Intelligence subscales, age and experience. The results showed variation in correlations at T1 and T4, where overall correlations (control and intervention group combined) indicated a number of positive significant correlations between EI subscales and age as well as experience; these correlation coefficients appeared to be stronger when analysed for the intervention group only compared to the control group only. Also the correlation coefficients between the EI subscales were also stronger when analysing outcomes for the intervention group only. This clearly indicates that the EI intervention could have improved and strengthened such relationships.

Further analyses showed that comparisons involving gender and job role produced differences between the intervention and control groups when considering EI subscales, Sense of Power, Self-efficacy and Leadership subscales. These findings are considered in the next chapter.

Chapter Seven: Discussion

Introduction

The discussion chapter provides a review of the research findings to assess the impact of an emotional intelligence training and education programme on emotional intelligence level, leadership style, self-efficacy, and perception of power amongst nursing college employees in Saudi Arabia. The chapter begins with a synopsis of the research findings discussed in the previous chapter. The subsequent sections of the chapter provide an analytical assessment of the findings in relation to the existing literature. The results of the data analysis procedures are used as the basis for the observations, conclusions, and inferences drawn for this study. The chapter also contains an evaluation of the validity of the findings in the context of Saudi Arabia and how the findings can be effective in promoting emotional intelligence within Saudi Arabian organisations.

Key findings

The research findings reveal certain distinctive patterns that highlight the impact of the intervention programme on emotional intelligence variables across four time points. These results indicate that emotional intelligence can be developed through an effective intervention programme and help in transforming behaviours. This change is however not evident instantly (at T2) but can be traced gradually over the ensuing period of time – this is possibly a result of participants of the intervention programme assimilating the information in their daily lives. These results indicate that among the study participants in the intervention group, EI intervention had a significant positive impact on individual emotional competencies, as well as on self-efficacy and leadership styles of idealised influence, inspirational motivation, and intellectual stimulation.

In order to justify this interpretation of the results, comparisons were made in the study variables across each time point between the control and the intervention group. The observed lack of difference at T1 between the control and experiment group confirms the comparability of the two groups at baseline. The lack of significant difference at T2 stage can be attributed to individuals requiring time to adapt and to assimilate new approaches and accept these as a part of their daily routine (Gorgas et al, 2015). Behavioural changes cannot happen overnight and hence some time gap is needed to internalise the defined changes.

Assessment of EI skills and competencies involves a deeper focus on the individual traits and attitudes that define the ability of people to build relationships with others and interact with others. The literature review section highlighted that EI is commonly evaluated on parameters like self-management, sensitivity of awareness, social awareness, self-efficacy and self-awareness (Lopez-Zafra, et al., 2017; Kumar, 2014). The literature review also highlighted that EI is a critical aspect in defining leadership style as it enables leaders to understand and interpret emotional aspects driving a team's behaviour. However, it should be noted that leadership styles and EI levels are influenced by other factors, such as local culture. Hence any changes in EI can be mitigated by a significant change in cultural perspectives which takes time (Clarke, 2010). This study also points to the impact of a specific training programme in increasing EI scores over a period of time, particularly for those who work in teams. Team members motivate, inspire, and instigate people to develop EI skills and achieve better control over personal emotions and ability to manage other's emotions, which were topics covered during the training programme.

The findings of this study support the observations of another study made in this context earlier. The study by Gorgas et al (2015) established that EI is a complex construct that involves the perception, processing, regulation, and management of individual emotions and observed that the impact of EI intervention programmes is evident only after a few months. The reason for this delayed impact could be linked to the fact that EI skills improve over a period of time and individual experience over that time may well have a positive association with the development of EI capabilities. The EI scores of the research participants were found to be significantly higher in the post one month and post three months of the intervention. The EI scores did not record improvement immediately after the intervention.

Prior studies on emotional intelligence, as pointed out in the systemic review of literature, have established that EI scores can be improved through various training and intervention programmes (Nelis et al., 2009; Lange, 2014; Vesely et al., 2014). These studies have provided ample evidence of how various training programmes and intervention techniques can be used by organisations and institutions to improve EI scores of their staff.

Practical evidence from these research studies also support the theoretical concepts surrounding the topic of EI. EI skills and competencies are effective in terms of defining the leadership capabilities of an individual. This is primarily because effective leaders are successful in understanding, interpreting, managing, and controlling their own emotions,

others' emotions, and utilising emotions to fulfil distinctive goals and objectives (Nelis et al., 2009). The findings of the current research study also indicate a correlation between leadership variables that include inspirational motivation, idealised influence, intellectual stimulation, self-efficacy and EI. The study findings also reveal a negative correlation between EI subscales and Laissez-Faire leadership styles across all time points. This observation coincides with the findings of some previous studies in this context (Leban and Zulauf, 2004; Harms and Crede, 2010). The literature review highlighted the role played by EI in shaping leadership development and leadership styles (Batool, 2013; Nordin, 2011), where EI skills can influence the effectiveness of leadership in workplace settings. A majority of studies evaluated in this thesis have emphasised the positive correlation between transformational leadership and EI (Hur, 2009; Palmer et al., 2001; Mandell and Pherwani, 2003; Leban and Zulauf, 2004; Sivanathan and Fekken, 2002).

The role of demographic variables

The study did not find any significant correlation between age and any of the EI variables in the pre intervention (T1) stage. Experience, however, showed a positive correlation with the EI variables at the T1. In the T4 stages both age and experience showed a significant positive correlation with EI variables.

Effect of other demographic data on study variables

Apart from the above variables, the levels of EI attributes and other dependent variables amongst participants were also tested for correlation with demographic factors of age and length of experience in the job. Furthermore, these correlations were assessed with regard to changes in relationships between T1 and T4. The results are summarised in this subsection of this chapter.

Age and years of experience

The age of the participants as of T1 did not show any significant correlation with any of the emotional intelligence indicators. However, this changed as of T4, after the faculty who underwent the training had spent a month on their regular jobs. At this point in time, most of the emotional intelligence factors apart from sense of power, intellectual stimulation, individualised consideration, contingent reward, and managing by exception showed a statistically significant correlation. The number of variables that age had positive correlation

with as of T4 increased marginally to include management by exception. These findings imply that age, when combined with the opportunity to put into practice the EI training undergone by faculty members, does generate a higher EI capacity amongst participants. Whilst a direct comparison with a prior research study is not available, the findings from a prior research does suggest a positive correlation between age and self-efficacy, which in turn has proved to have a positive correlation with EI (Moghadam, 2015). This can be taken as a recommendation for detailed studies to be undertaken as part of further research on the subject.

Experience, on the other hand, showed a high degree of correlation with overall EI even at T1. This is indicative of the extent to which the number of years a person has been in a job and the frequency of formal and informal interaction with colleagues he or she has had at the workplace plays a role in developing their EI abilities, although there are no existing studies as yet to support this assertion. This result was further confirmed from the results as of T4, which saw an increasing number of EI attributes showing a correlation with experience once the EI training was administered as part of the intervention (Penrose et al. 2007).

Managers and non-Managers

Tests were conducted to compare managers and non-managers in the control and intervention group. It is important to examine the distinction between the groups because the needs and applications of EI skills differ between managers and non-managers (Smith, 2016). In particular, previous researchers have asserted that EI is a mandatory set of skills necessary for effective management (Lam and O'Higgins, 2013; Shapira-Lishchinsky and Levy-Gazenfrantz, 2016; Mintz and Stoller, 2014). However, as noted previously, existing research was focused on the interrelationships between constructs such as EI and leadership, while there is a paucity of research on the effectiveness of EI programs in effecting change for these variables. Results indicated that there were no statistically significant differences between managers and non-managers for both the control and intervention groups.

However, for T3 and T4, managers and non-managers from the intervention group scored significantly higher than both the managers and non-managers in the control group. Likewise, while managers from the control and intervention group did not exhibit statistically significant differences in their self-efficacy scores at T1, by T2, managers in the intervention group scored significantly higher than managers in the control group. At T3 and T4, both managers and non-managers in the intervention group exhibited significantly higher scores compared to managers

and non-managers in the intervention group control group. With regard to their leadership skills, the sample exhibited comparability by having no statistically significant differences at T1 and T2 between managers and non-managers in the control and intervention group at T1 and T2, but at T3 and T4, managers and non-managers in the intervention group exhibited significantly higher scores than managers and non-managers in the control group. This pattern was followed for most of the subscales under leadership, while managers and non-managers in the intervention group scored significantly lower for laissez-faire leadership at T3 and T4. As with the results for the other variables, no immediate changes were noted after the workshops. This can be due to the fact that EI is needed skills for all employees at work place, and that both manager and non-manager need EI skills to manage different needs of every day work requirement(McColl-Kennedy and Anderson, 2002; Goldring et al., 2015).

Gender

At T1, there were no statistically significant differences between the genders in both the control and intervention groups indicating comparability. However, at T2, perception of emotionby females in the intervention group was higher than participants in the other groups. These results are similar to those obtained by Al Asmari (2014), who examined differences in EI between males and femalesin a Saudi university. Al Asmari (2014) found that among females, EI was positively linked with performance, and female participants scored higher on EI elements like stress management, interpersonal skills, and intrapersonal skills. Likewise, Ibrahim et al. (2017) found that gender was a significant predictor of EI, with females scoring higher than males.

By T3 and T4, both males and females in the intervention group scored significantly higher for EI compared to males and females in the control group. The same pattern was observed for self-efficacy with no statistically significant differences between the genders in both the control and intervention groups, but at T3 and T4 both males and females scoured higher than males and females in the control group.With regard to the sense of power, there were no statistically significant differences between males and females from the control and intervention groups at any of the time points. As for leadership styles, there were no statistically significant differences for males and females in the control and intervention group at T1 and T2. However, at T3 and T4, males and females in the intervention group scored significantly higher for idealized influence, inspirational motivation and individual consideration, and significantly lower for laissez-faire leadership, compared to males and females in the control

group. These results are supportive of findings by Moghadam (2015), which indicated that gender affects strong positive relationships between EI and self-efficacy. However, a previous study on the relationships between gender and constructs such as EI, leadership, and self-efficacy have mostly utilized gender as a moderating factor ineach of these, as opposed to examining the relationships between gender, EI, leadership, and self-efficacy (Penrose et al., 2007). The findings of this study also concur with assertions by Al Asmari (2014) that increasing and enhancing EI abilities can result in academic and professional success for participants from both genders.

Effect of intervention on EI level

EI amongst the intervention group participants was analysed as perception of emotion, managing own emotion, managing others' emotion, and utilization of emotion. Across these measures, no significant differences were observed for the control group. For the intervention group, differences were significantly increased only between T1 and T3 (1-month post-intervention) and T1 and T4 (3-month post-intervention), whilst differences between T1 and T2 (pre- and post-intervention) were not found to be statistically significant. This would suggest that the effect of the EI training intervention manifested amongst the intervention group participants once they had returned to their work environments, and started implementing EI control and management techniques in their everyday work routines. This explains the conscious manifestation of heightened EI attributes amongst these participants at T3 and T4, compared to T1 or T2. A key finding here is that, whilst EI training has been proved to be effective in enhancing EI amongst participants, this benefit can only be fully realised by complementing such training with experiential learning (Gorgas et al., 2015) in this case in the workplace at nursing universities in Saudi Arabia.

However, it should be noted that it is unknown which aspects of the training programme accounted for these changes, or how these effects actually manifested in the workplace. These aforementioned aspects are beyond the scope of the current study, but have highlighted an area for further exploration. Future studies similar to this can include an additional step of data collection post-intervention to ask the participants to identify which aspects of the training programme were most useful in their practical contexts. This will be discussed in further detail in the sections on implications for theory and practice. The results from the current study corroborate findings from prior studies on the effect of EI training on EI levels amongst respondents. The rise in traits of emotional regulation, emotion management ability, and

openness to emotional experiences as a result of receiving EI training was found by Nelis et al. (2009). Similar findings were also reported by Lange (2014), Vesely et al. (2014), Poole and Quarter (2011), Clarke, (2010),Bamberger et al. (2016), Kozlowski et al. (2018),Karimi et al. (2018),and Gilar-Corbí et al. (2018). However, the previous comparisons were on statistical differences pre- and post-intervention, and did not necessarily reveal the pronounced effect of application of the concepts of IE to their respective jobs by respondents. As such, this current study indicates that the positive relationship between EI training and EI levels manifests in a similar manner in Saudi contexts. However, as with previous studies, this current study only focused on determining whether EI training would result in statistically significant changes in EI, self-efficacy, leadership, and sense of power, but did not investigate how the concepts of EI learned during training programmes are applied in practical contexts.

Finally, the results also suggest that the EI training programme used by the researcher as the intervention mechanism was effective. The best attempts were made to devise a theoretically driven, well-executed and well-planned quasi-experimental design. Based on the above, this training programme can form the nucleus for a more detailed and elaborate programme to be designed for administering across all nursing universities of the Kingdom of Saudi Arabia. From a generic perspective, these measures can also form a blueprint for enhancing EI amongst leaders in general. This includes expansion across geographical boundaries after adapting any measures put in place to address cultural aspects of Saudi Arabia (for instance, gender segregation was implemented to administer these courses). Similarly, within the KSA, this training programme can also be extended to other manufacturing and services industries, and not necessarily restricted to nursing universities of KSA.

This study also took into account how factors such as gender and length of experience were associated with changes in the EI scores from pre-intervention to post-intervention. The results of the study indicated that the years of experience were significantly associated with EI levels even at the point of pre-intervention, indicating the role played by experience in developing EI abilities. This was further corroborated by the increased number of EI attributes exhibiting a correlation with experience after the training was provided, i.e. time was required to implement strategies learned in the workshop intervention. This adds to existing knowledge on the subject of EI, particularly as it occurs in the Saudi context, especially in light of the results of the literature review, which indicated that factors such as age or experience were examined only as moderating factors between EI and other constructs (Penrose et al., 2007),

not as a construct in itself. Likewise, a review of the literature has indicated that this study is one of the first to be conducted within the Saudi context, where gender relations are different than that of other nations. This is an area for possible investigation in future studies, and is discussed as such in latter sections of this chapter.

Effect on self-efficacy

Self-efficacy in general has been described in previous sections of this research as the beliefs of people about their potential for producing desired levels of performance, which influences events affecting their lives (Bandura, 1994). As such, it influences the extent to which an individual thinks, feels, and motivates him/herself to behave when faced with a particular set of circumstances. The results from the data collection and analysis in the present study replicate the findings of the relationship between EI training programmes and changes to EI of participants. In other words, no significant differences in the self-efficacy levels were observed for the control group across the time period from T1 through to T4. For the intervention group, increases were significant only between T1 and T3 (1-month post-intervention) and T1 and T4 (3-months post-intervention), whilst comparisons between T1 and T2 (pre- and post-intervention) were not found to be statistically significant. The analysis between the male and female participants in the control and intervention groups indicated that there were no statistically significant differences between males and females in both the control and intervention groups at T1 and T2. However, at T3 and T4, both males and females in the intervention group scores significantly higher for self-efficacy compared to males and females in the control group. This is consistent with previous findings asserting that EI is positively associated with the sense of self-efficacy (Ibrahim et al., 2017). In this study, the training intervention was implemented to increase EI among the participants, which it did. The data also showed that the sense of self-efficacy increased in the intervention group's participants over time. In line with Ibrahim et al.'s (2017) findings, increasing the EI level of the participants through the training intervention program may have resulted in the increase in the sense of self-efficacy as well.

This is again in agreement with the findings from the literature review, which explained four avenues for the development of self-efficacy amongst individuals, namely vicarious experience, mastery experience, physiological state, and social persuasion (Gharetepeh et al., 2015; Chan, 2004). When the EG participants returned to their regular jobs post-intervention, this opened up all four these avenues for the participants to enhance their self-efficacy through

a mix of the EI training and experience on the job. A range of work situations that they potentially encountered during the three-month period post-intervention would have given them the chance of displaying higher resilience, and thus benefit from mastery experience. Similarly, they would also have benefited from being more observant and perceptive of the success enjoyed by their colleagues and peers at work, and encouraged that they could do even better when faced with difficult work-related tasks. This in turn would result in enhancing their self-efficacy through vicarious experience.

A corollary that can be drawn from these findings, and the previous set of findings relating EI training to EI levels post-intervention would suggest that the EI training has had a positive influence on EI levels, and this in turn has enhanced the self-efficacy of the EG participants. Teacher self-efficacy was defined by Skaalvik and Skaalvik (2010) as the belief that a particular educational objective can be achieved by someone through enforcement of many strategies, for example, lesson planning, organisation of lessons, and classroom activities. Further, the findings from the study also confirm the literature review findings about self-efficacy being a learned trait rather than an innate passive trait that cannot be developed through training and education. However, this study is limited to determining whether the implementation of an EI training programme would result in changes in scores for EI, leadership, self-efficacy, and perceptions of power. As such, there may be a need to add another step in the post-intervention data collection to identify which aspects of the EI training programme were most relevant or useful for self-efficacy in practical contexts.

The above findings have also been corroborated by prior research studies in the area of self-efficacy. For instance, Sutton and Wheatley (2003) highlighted how self-efficacy amongst teachers could vary based on the variation in the EI levels amongst them. High levels of emotional intelligence were also related to a higher ability of individuals to cope with changing situations around them by Morris-Rothschild and Brassard (2006). Finally, in studies conducted amongst the teaching fraternity in two diverse geographical locations by Chan (2008) in Hong Kong and Salami (2007) in Nigeria, a positive correlation between emotional intelligence and self-efficacy amongst teachers was established.

Effect on leadership style

Based on the above findings, the EI training has evidenced a differential effect on diverse styles and approaches to leadership. The effect has been most pronounced on the attributes

reflecting the transformational style of leadership (in a positive manner), and markedly less on transactional leadership. This is in keeping with the findings from the literature review that employees perceive their leadership to be more transformational in behaviour when they exhibit high degrees of EI compared with those display behaviours pertaining to transactional or laissez-faire leadership styles. These findings are also consistent with prior research work in the area of relationship between EI and leadership styles. Specifically, studies by Batool (2013), Nordin (2011), and Harms and Crede (2010) conceptualise a positive correlation between EI and the transformational style of leadership. The other finding that is also corroborated on leadership styles is the negative correlation between EI and the laissez-faire approach to leadership (LebanaandZualuf, 2004). Finally, whilst the result in the study did not prove any conclusive relationship between EI and transactional leadership, prior studies by Lebana and Zulauf (2004) also display a negative correlation between EI and the transactional approach to leadership.

No significant differences in the leadership attributes of idealised influence and inspirational motivation levels were observed for the control group across the time period from T1 through to T4. For the intervention group, differences were significant only between T1 and T3 (1-month post-intervention) and T1 and T4 (3-month post-intervention), whilst scores between T1 and T2 (pre- and post-intervention) were not found to be significantly different. The higher levels of idealised influence or the charisma leaders considered themselves to possess increased once these leaders (teachers and management personnel at the nursing universities) had spent the first three months at work after attending EI training. It follows from the above that returning to the work setting would have enabled the IG participants develop an appreciation of various avenues where they could showcase charismatic leadership to influence their students to do their best at their coursework (Chan, 2004, Nordin, 2011).

Individualised consideration amongst participants in the intervention group significantly increased, between T1 and T2, as well as during the one-month post-intervention (T3) and three-month post-intervention (T4). This could indicate an enhanced realisation amongst these teaching staff; apart from ensuring good collective results of the course batch as a whole, they also were responsible for each individual student, and could not afford to neglect weaker students being left behind. The same could have been carried through from T2 into their regular work schedules as well, and managed to be retained amongst teaching staff even

three months after they received the EI training, which could have had an effect on how they manage their relationships with their colleagues.

Moving on to the laissez-faire style of leadership, it was observed that the control group exhibited statistically significant higher traits of laissez-faire leadership compared to participants who had undergone EI training. This is in keeping with the definition of laissez-faire leadership, which is characterised by inaction, as a non-transactional style of leadership or reflexive behaviour reflected by the leader. The EI training has in fact achieved the opposite effect here, exhorting the teaching staff from the intervention group to move from a leadership approach of no tangible involvement and no interference in the face of conflicts to a more proactive leadership approach. Such a leadership approach would be based on their understanding and utilization of emotions, both their own and their team members. Accordingly, the recommendation here is for these attributes to be examined more closely with their relationship to EI in further detailed research studies conducted on the subject.

Effect of EI training on leadership – intensity and timing

One major enhancement to the existing knowledge repository on EI and its influence on participant leadership style was that the present study evidenced not only the intensity of the relationship, but also the temporal effect. The intensity was established by the statistically significant effects of the EI training on self-assessments of self-efficacyand on transformational style of leadership. More importantly, however, was the temporal effect that the study established. It did so by highlighting the impact of EI training on the IG participants even three months after the training intervention was administered to them. These findings are congruent with those of Gorgas et al. (2015), who found a similar lag in the observed effects of EI training, and concluded that the results of EI training programmes could take a few months for results to become apparent. By conducting longitudinal studies to evidence this fact, the results of the study can be extended to much more than a snapshot of findings assessingthe effect of time on the dependent variables.

Effect on power perception

The results of the Friedman test conducted to assess the impact of EI on perceived power by the leaders in the intervention group yielded no statistically significant results. This would imply that there was no shift in the extent of power the leaders wielded on each other following the EI training intervention, even after an extended passage of time. A higher degree

of power enables managers and leaders to handle conflicts, performance problems, and motivational issues faced by employees. This is markedly different from the findings of a prior study conducted by Schutte and Loi (2014), which demonstrated a positive correlation between EI level and perceived power.

Alternative explanations for this can be considered. First of all, when leaders are equipped with EI, they are able to exert an influence on their staff, students, or employees as the case may be in a positive manner, that is, by connecting to the inner emotions of their followers, empathising with them, and utilising these emotions to yield desired organisational goals. This does not necessarily translate to a sense of power, which inherently carries a negative connotation, as contrasted with the influence exerted through use of EI. Power is used more in the context of transactional styles of leadership (Nordin, 2011), where leaders' ability to enforce rules and regulations, work regimes, and 'carrot and stick' practices can be representative of the extent of power wielded by the leader on his or her followers. EI does not necessarily align itself with this negative perspective of sense of power.

A second explanation stems from the Hofstede's (2018) indices of cultural attributes, as explained in the previous sections of this research. The Kingdom of Saudi Arabia exhibits a very high index for power distance as part of its cultural traits. This is the degree to which the low powerful individuals of an institution and firm within a country accept and expect the unequal distribution of power. The pre-existing and extremely hierarchical set-up of organisations in Saudi Arabia, complemented by the rigid legitimisation of such a structure on the basis of religion, is responsible for the high-power distance within KSA. As a result, the country and its organisations start from a very high base of power distance and a sense of power amongst leaders. Hence, this could have mitigated the possible effects of the EI training on the sense of power in this particular context, and could explain the absence of a correlation between EI and sense of power as evidenced from the data analysis.

Cultural perspectives, their impact on EI and the social significance of the study

The research addresses the gap in the literature on EI studies in the context of the culture of Saudi Arabia. It helps in providing useful insights into the EI skills and capabilities possessed by the workforce in Saudi Arabia and how such skills and capabilities can be improved through the deployment of such intervention programmes. Saudi Arabian government recognises the significance of emotional intelligence skills in terms of promoting

its organisational performance, improving service efficiency, and enhancing leadership skills. It is in accordance with these objectives that KSA higher education training programmes are incorporating EI skills development (Chandana, 2012). The evidence suggests that EI training is a major priority facing the Ministry of Health (MOH) as it endeavours to facilitate improvement in staff EI levels (Qureshi et al., 2013). Existing research on the adoption of EI training programmes presents limited knowledge as no research studies have so far focused on evaluating the impact of EI training programmes on emotional intelligence variables in a Saudi Arabian context. Hence, this research study serves to fill this knowledge gap and provide a contextual assessment of EI training programme effects and its implications on different variables related to EI. The findings and observations of the research study are relevant to the cultural peculiarities of Saudi Arabia that present several challenges as highlighted in previous sections of this thesis.

The Saudi Arabian culture represents a hierarchical order where interpersonal relationships are determined on the basis of seniority and social status. Power distance in Saudi Arabia is a key cultural dimension identified by Hofstede (2018) as ranking the highest in the world. The social structure demarcates the role of people based on their religion, social status, seniority, and organisation structure. Business organisations and institutions adopt a hierarchical structure where roles and responsibilities are defined on the basis of individual hierarchy (Minkov, 2013). The Saudi Arabian culture represents a collectivist and masculine-oriented society where people place work, competition, and performance in high regard (Minkov, 2013). KSA culture also scores high on Hofstede's cultural dimension of uncertainty avoidance which reflects collective efforts to control situations to minimise uncertainties, meaning that security assumes prime significance, and innovative efforts can be opposed. The people belonging to this culture have immense respect for their tradition and norms that define social relationships and interaction patterns within the communities. Hence, gender differences assume specific importance as both males and females assume specific roles within the society. Females employed in this society work in an all-female environment and are not supposed to maintain direct contact with men (Cassell and Blake, 2012). This dynamic manifested itself in the current study through the differences in the delivery of the training programme between the male and the female participants. For the female participants, a face-to-face approach was implemented, while for the male participants, the researcher delivered the training programme from behind a screen, in consideration of Saudi culture. Given that findings from previous studies indicate concerns regarding the effectiveness of training courses delivered online as

compared to face-to-face methods (Bowers and Kumar, 2015; McCrutcheon, Lohan, Traynor, and Martin, 2014; Bawa, 2016), it is unknown whether the methods used to deliver the training programme may have had an effect on the results of the study, although both men and women in the intervention group did show improvements in EI scores compared to the control group. This is considered a limitation of the study and is discussed as such in later sections of this chapter.

While the absence of a statistically significant relationship between constructs such as EI subscale (perception of emotion, managing won emotions, managing others emotions and utilization of emotions) and power could indicate that there really is no relationship between the variables, it is worth noting that the context in which the study was conducted could have had an effect on these variables. The cultural aspects highlighted in the context of Saudi Arabian society provide the baseline for defining EI skills and competencies within individuals. Gunkel et al. (2014) emphasised that the presence of emotional intelligence skills and competencies within individuals is determined, to a large extent, by values that are unique to specific cultures. Cultural dimensions like long-term orientation and uncertainty avoidance define how individuals interpret emotions, control or manage emotions in conflicting situations. The studies in this context have highlighted that national culture promotes specific skills or sensitivities that regulate emotions or use emotions to resolve certain situations. National culture, therefore, has a distinctive influence on individual perceptions of own emotion, understanding other's emotion, regulating emotion, and use of emotion. Hence national cultures provide an effective explanation for why people behave in particular way, what are the key forces that influence their attitudes and actions, and how they communicate or interact with each other. The cultural perspectives in the context of Saudi Arabia when applied to the findings of this research study help in explaining why certain constructs like sense of power and contingent reward recorded no significant correlation with overall emotional intelligence. Individual sense of power is deeply rooted in cultural values reflecting hierarchies in society and therefore in organisations, hence changing these perspectives is not an easy task. However, the gains observed in variables linked to other EI constructs, i.e. as self-efficacy, idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration can be viewed as significant developments in terms of transforming cultural values. Such observations highlight that the EI intervention programme had a significant impact on the emotional intelligence level, leadership style, and self-efficacy amongst nursing college employees in Hail University in Saudi Arabia. In line with these

observations, it should also be noted that a review of literature has yielded few studies that examine how the concepts of power across different cultures mediate, moderate, or affect relationships between constructs such as EI, leadership, and self-efficacy. Thus, this is another area for further exploration that may be of interest to future researchers.

Significance of the research findings

The organisation of the EI intervention programme for this research study provides the background setting for analysing EI training outcomes in the context of Saudi Arabia. This is primarily because the researcher considered the local cultural perspectives while designing and implementing the EI intervention programme. Separate workshops were held for males and females considering the restrictive cultural views that restrain women from coming into direct contact with other males. A combined workshop for both men and women may have resulted in reduced participation of women, thus separate workshops were conducted. The research findings in the context of this study hold increased relevance to the EI training needs of Saudi Arabia as the target research audience belongs to an academic institution. The sample population comprised primarily faculty members who had the scope to utilise the lessons from the EI intervention programme in their day-to-day work routine. Hence, it can be said that the materials and resources from the training programme were most efficiently utilised by the research participants and therefore, the observations hold practical relevance in terms of evaluating the impacts of the training programme.

Research Significance

- **Significance for the Saudi Arabian context**

The research objectives were mainly centred around assessing the relevance and criticality of EI and EI training for the teaching faculty and management personnel at nursing universities in the Kingdom of Saudi Arabia. The researcher opines that this objective was achieved through opting to conduct the study on faculty members of Hail University located across a number of sites within Saudi Arabia. By ensuring that the physical imparting of training as part of the research study took place within the country, the research study proved to be much more than an academic exercise, and would be of immense value to the KSA's Vision 2030. It can also aid in the imminent plans to augment staff productivity and the success of training courses in general, and in the field of nursing in particular. The training course undertaken by the

researcher can serve as a blueprint for similar such courses being conducted in other organisations spanning several industries, not restricted to the education sector.

Furthermore, by factoring in the cultural sensitivity and awareness requirements, such as the need to conduct separate workshops for men and women and the use of a screen and a research assistant to conduct the workshops for male participants, that are specific to the Saudi context (Raddawi, 2014), the process used by the researcher to conduct the training also ensured maximum participation from the faculty at the university. This in turn allowed for a wider coverage amongst leaders at the university in elevating their EI abilities, which in turn yielded a larger sample size for the research and enhanced the overall reliability and validity of the research results.

- **Critical importance of EI to employees and managers at nursing universities**

The research demonstrated conclusively within the time and space constraints under which the exercise was conducted that development of EI capabilities amongst teaching faculty at the university had positive effects a number of employee attributes that contribute to achievement of the university's objectives. It has previously been established that EI can promote either a lower or higher morale, which can influence the performance and productivity of a worker either in a positive direction or in a negative direction (Schutte and Loi, 2014). Further, since medical students are those that get amongst the best academic results, these medical students register in medical schools and universities of nursing (Ibrahim et al., 2017). A further finding from the literature review also establishes that individuals with higher cognitive abilities are generally able to develop their EI much more than others. This would especially make EI even more relevant to faculty and students at nursing universities and medical colleges, since the development of EI skills are important for those considering careers in healthcare.

- **Self-efficacy and self-confidence amongst employees**

Another area of success of the study is the establishment of a positive correlation between EI and the self-efficacy amongst managers and non-managers. A higher level of self-efficacy exhorts employees to go the extra distance even in the face of adversity to fight against all obstacles and achieve the objectives they set out towards. Through gaining better insights of one's own emotions and those of their colleagues and staff, leaders are able to dig deeper into

the emotional relationship they share with their co-workers and utilise these emotions to secure the best possible collective effort towards achievement of organisational objectives Batool, 2013; Hur, 2009). EI has the ability to make employees more aware of the emotional undercurrents of the work atmosphere they operate within and harness these to the benefit of the organisation. They can use successful experiences of their own and their colleagues as a positive feedback mechanism that feeds into their self-confidence and drive to do better (Machumu, 2011). This self-confidence in turn is contagious and drives their staff to do better at work as well (Hur, 2009). Establishing this high relevance of EI training and EI skills to organisations through improved self-efficacy is one of the major achievements of this study.

- **Leadership and motivation**

The research also demonstrated how EI has a positive effect on both the hard and soft management aspects of leadership. For instance, the laissez-faire style of leadership, management by exception and the contingent reward attributes were positively influenced to different levels as a result of the EI training programme. What was even more pronounced, however, was the development of soft leadership skills (Brent and Dent, 2013) when participants were administered training in EI. The argument advanced here was that soft leadership skills in individuals are achieved through the continuum spanning self-awareness, self-management, social awareness, and relationship management. Here, the individual in question first develops intrapersonal EI and then interpersonal EI abilities (Brent and Dent, 2013). This had the effect of according a concrete basis for the findings from the study.

- **Implications for EI theory**

As an extension, this study has also demonstrated the pre-eminence of the mixed model of EI over an ability-based model. The ability-based model belongs to the domain of cognitive capability and would suggest that EI is more an inherent ability and hence reliant on the pre-existence of a certain level of EI within the person concerned for them to be able to employ it effectively (Matthew and Gupta, 2015). The mixed model of EI, on the other hand, refers to EI as learnt capabilities and has a belief that every individual are born with some specific level of EI, and it can be further polished and increased through proper skillful trainings (Boyatzis et al., 2001; Goleman, 1998). By establishing the effect of the EI training on heightened levels of EI amongst participants, this study reinforces the validity of the mixed model for developing EI amongst participants.

Limitations of the study

Care was taken in the design of the study to control for the potential impact of confounding variables. The study was conducted under several limitations that might have an impact on its observations and inferences. Firstly, the researcher undertook the role of designer, trainer and evaluator for the EI training programme. This may have had an unintended indirect impact on the observations and the final outcomes presented in this research study. The possibility of researcher bias cannot be ruled out; hence, this may have an impact on the accuracy of the outcomes. The data collected from this process was, however, checked and validated by the researcher's supervisor. This helps to rule out the possibility of inaccuracy in terms of data analysis and other observations made based on the results of the data analysis. In addition, the design of the workshop materials was overseen by the supervision team and piloted before use in the main study.

Secondly, the nature of self-report data may influence the results as some participants may seek deliberately or sub-consciously to show themselves in a good light. Tendencies to extreme responses or to adhere to mid-point responses can also skew the results. To overcome these issues, participants were provided with sufficient time to complete the surveys. Furthermore, the inclusion of the control group would have helped to neutralise some degree of bias.

Inability to allocate individuals randomly to intervention or control group risks the creation of non-equivalent groups and allows for extraneous variables to interfere with study results. The best option under the circumstances was to assign groups in different locations with a distance no less than 100 kilometres between them, so that contamination between groups could be avoided. Statistical analysis showed that the groups were similar in most variables at the baseline level, therefore establishing equivalence and minimizing risks from selection bias.

Restricting the study to a single region of Saudi Arabia, while unavoidable for practical and logistical reasons, restricted the study to that geographical location, which limits the wider generalisability of the findings. However, while the Hail region may vary from some other regions in terms of local culture, the national regulation of universities employee, particularly in government universities, limits heterogeneity among employees, so it is not anticipated the applicability of findings to other regions would be restricted.

Also, the research study was conducted with limited financial resources. The financial constraints of conducting this study prevented the researcher from utilizing another facilitator for the pilot study in the University of Salford. Likewise, it should be noted that the facilitator for the actual workshops may have also had an effect on the results of the training programme. As stated earlier, the researcher delivered the workshops face-to-face for the female participants, but through a screen for the male participants. This could have had an effect on the way the participants received the messages delivered in the workshops, but limited resources prevented the researcher from examining how the results could have differed, for instance, if a male facilitator had delivered the workshop for the male participants. Based on the results of the data analysis, the female participants exhibited significantly higher scores than the male participants at T2 for some EI subscales (perception of emotion). It is unknown whether this finding would still hold true if a male facilitator had delivered the workshop instead of the researcher.

Additionally, the organisation and implementation of the research process hold significant relevance as the researcher is a distinctive part of the research setting. Being one of the faculty members in the Hail University, I had practical knowledge and experience of the local cultures, management practices, employee attitudes, work-related challenges, and the required changes that can contribute to improving the work culture at the University. Since the study focus is primarily on exploring the impact of EI training programmes in the context of Saudi Arabian culture and work environment, the findings of this study may not provide accurate insights in the context of different cultures. The findings and observations may lose relevance when applied to a different cultural context as the conduct of this study highlights the influence of local culture.

Lastly, while the results of the study exhibited statistically significant changes with regard to the scores of the participants for the study constructs across the four time points of data collection, the results of the analysis do not immediately explain why the significant changes were observed at T3 onwards, instead of immediately after the intervention. It was hypothesized that the effects of learning about EI concepts were magnified by their actual use in the participants' working contexts in the time between which data for T2 and T4 were collected. However, this hypothesis is outside the scope of this study, and no finite conclusions can be made regarding this point. Although it may be considered a limitation of this study, it is recognised as an area for further exploration in future studies.

Summary

1- The chapter provided a detailed analysis of the research findings in the context of the impact of an EI training programme on emotional intelligence, leadership style, self-efficacy, and perception of power amongst nursing college employees in Saudi Arabia.

2- The analysis reveals that the EI training programme had a significant impact on EI scores, individual self-efficacy and leadership styles. The analysis establishes a strong linkage between leadership variables and EI. One of the key findings of the research study points to the observation of a time gap in recording significant increases in EI scores, wherein the participants in the intervention group displayed significant improvement in EI scores one month after and three months after the intervention programme. The reason for this delayed impact could be linked to the fact that EI skills improves gradually over a period of time and individual experience has a positive association with the development of EI capabilities.

3- The results of this study were indicative of the fact that a mixed method approach in intervention is possible and yields good results. Through the intervention the participants had the opportunity to develop traits through behaviours which became abilities.

4- The results furthermore showed that EI intervention can be effective in a culture of high power distance where transactional leadership is often the norm. It is, however, not clear whether this kind of intervention would yield the same results in other organizational settings since this study only involved a university setting.

5- These insights were linked to the findings and evidence explored in the literature review section to draw deductive inferences and provide supportive facts that help in understanding the impact of EI training better.

6- The findings and analysis suggest that EI skills and competencies can be improved gradually over a period of time through training and intervention programmes. The research study contributes to filling the literature gaps existing in the context of the impact of training programmes on EI levels in Saudi Arabia. The chapter concludes by highlighting the relevance of this research study in the context of Saudi Arabiaand its cultural peculiarities.

7- It is important to note that a delay between the workshop and second assessment is needed before changes are observed or measurable This factor emphasises the importance of having opportunities to practise EI skills, e.g. in a work setting. Cherniss

and Goleman (2001) pointed out the need for implementing maintenance factors during the training to gain long term advances in EI. Implementing EI skills acquired during the workshops commonly happens in stages that could be extended over several months (Boyatzis et. al, 2000; Jonker, 2009; Boyatzis and Van Oosten, 2002).

Chapter Eight: Conclusion and recommendations

Summary of the study

The aim of this study was to test the impact of an emotional intelligence training programme on emotional intelligence level, leadership style, self-efficacy and sense of power among nursing college employees in Saudi Arabia.

The results of the study provide support for the idea that intervention in the form of an emotional intelligence training programme can effect change in developing EI qualities and skills, some aspects of transformational leadership and self-efficacy in the Saudi context. The study found significant improvement in all EI subscales (perception of emotion, managing own emotions, managing others' emotions, and utilization of emotion), self-efficacy, and aspects of transformational leadership (idealized influence, inspirational motivation and individualized consideration). A statistically significant decrease was observed for the participants' scores for laissez-faire leadership. However, no changes were observed in the other aspects of transformational leadership style (intellectual stimulation, contingent reward and management-by-exception). Likewise, no assertions are made regarding the effects of the EI training programme on the perceptions of power given that there was no statistically significant sustained difference in the perception of power scores between the control and intervention group participants.

Key messages

1) Unique contributions of the study

A review of existing literature indicates that while the concept of EI has been studied in a range of cultural contexts, few studies have been conducted in an Arabic context. This study is a pioneer in the field in many aspects. First, this study is one of the first to be conducted on EI as it occurs in the Kingdom of Saudi Arabia and in the Gulf Region among nursing college employees. Second, it is one of few studies in the world to assess the impact of EI training on personal and social EI competencies, self-efficacy, and the transformational, transactional, and laissez-faire leadership styles.

Third, it is one of the first studies in the world to spotlight the impact of EI training intervention on an individual's personal sense of power. Fourth, it is one of the

first studies in the KSA and the Gulf Region that has explored gender differences in relation to the impact of EI training intervention effects. Fifth, it adds a new perspective with regard to research on gender and EI, because it explores how gender as a construct on its own relates to EI, self-efficacy, leadership, and perceptions of power. A review of existing literature indicated that previous studies utilised gender as a moderator in the relationship between factors such as EI, self-efficacy, and leadership (Penrose et al., 2007; Mandell andPherwani, 2003).

Lastly, the majority of previous studies have focused on exploring the relationships between the constructs of EI, leadership, self-efficacy, and perceptions of power (Mills, 2009; Moghadam, 2015; Penrose et al., 2007; Gharetepeh et al., 2015; Chan, 2004; El-Sayed et al., 2014; Nordin, 2011; Batool, 2013; Harms andCrede, 2010; Hur, 2009). In contrast, this study explored the effects of implementing an EI training programme in effecting changes in the aforementioned constructs.

2) Implications of emotional intelligence training intervention

This current study is a response to the recommendations from previous studies to implement EI training intervention programmes or to incorporate EI in existing training programmes to improve self-efficacy and leadership, among others (Alghamdia, 2013; Mills, 2009; Gharetepeh et al., 2015; El-Sayed et al., 2014). The data for this study provides support for the assertion that the implementation of EI training programmescould have positive effects on personal and social EI, self-efficacy, leadership style, and perceptions of power.

3) Practical application of concepts learned in the EI training programme

A key observation in this study was that the effects of the EI training programme were not apparent immediately after the intervention, but were observed one month and three months post intervention. It was posited that the learning from the EI training programme may have been more apparent when the participants used the knowledge in their work setting. However, this would require further research to confirm. Likewise, there is a further need to explore which aspects of the training programme were most relevant or useful in a practical context.

Implications for further research

- **Replication of the study in a wider context**

  As a doctoral endeavour, this study was limited by resources. It is recommended that future replications of this study use the same educational material and methods, but recruit more nursing faculty employees from all regions in Saudi Arabia tofurther increase validity and generalizability of the findings. Due to geographical cultural differences wider testing is advisable.

- **Use of gender-sensitive facilitators**

  This current study was carried out by a female facilitator. In accordance with Saudi culture, workshops for male and female participants were conducted separately. Face-to-face workshopswere held with the female participants, but male workshops were conducted from behind a screen and with an assistant to distribute materials. This set-up may have had an effect on the study results. It is recommended that future researchers use a gender appropriate facilitator for both participant groups.

- **Extension of the scope of the study**

  As previously mentioned, the effects of the EI training programme were not observed immediately after the intervention (at T2), but were observed one month and three months later (T3 and T4, respectively). It was hypothesized that these effects may be due to the participants' practical application of the concepts learned in the EI training in their work setting. However, this was outside the bounds of the study, and was therefore, unexplored. Thus, it is recommended that future researchers focus on exploring employees' experiences in the time gap between the intervention and the observed effects of the intervention. Future researchers could identify which aspects of the training programme were most relevant or useful in the practical contextby adding an extra step in the data collection procedures after the collection of T3 and T4 data. Interviews with participants might be a useful source of qualitative data on evaluating the effectiveness of the EI training programme implemented.

- **Further exploration of the relationship between power and EI program effectiveness**

  The pattern observed in the results for the constructs of EI, leadership, and self-efficacy did not hold true for the scores for perception of power. This might be due to the high power distance classification of Saudi Arabian culture. To understand how to

implement EI training programmesto effect changes in the perception of power in the Arabic context, there is a need for further research to specifically understand how the concept of power is manifest in Arabic organizations.

Implications for emotional intelligence intervention

- The research findings indicated that a time gap of one month to three months in observing any significant impact of the training on overall emotional intelligenceis normal and to be expected. However, the reasons for this time lag are not very clear. Future research should focus on exploring the causes behind this time lag and how it can be planned for or even reduced for effective outcomes. The quantitative results ofthis study, could also be augmented with more detailed qualitative research and analysis.

- The research findings established that EI training not only has a significant impact on emotional intelligence levels of nursing college employees in Saudi Arabia, but also on associated personal and work-related factors.This have also established a positive correlation between leadership styles and self-efficacy which aresignificantfor individual sense of commitment, engagement, and organisational commitment.The impact of EI training on these variables needs to be explored further and considered in future training intervention studies.

- This study demonstrated the pre-eminence of a mixed model approach to EI, regarding EI as learned capabilities which can be further developed and enhanced through proper training (Boyatzis et al, 2001; Goleman, 1998). By establishing the effect of the EI training on heightened levels of EI amongst participants, this study reinforces the validity of the mixed model for developing EI amongst participants.

Policy implications

- **Provision of appropriate human resource training programmes for all employees**

In agreement with previous studies, development and implementation ofsimilar EI training programmesfor other populations such as teachers (El-Sayed et al., 2014) and medical students (Gharetepeh et al., 2015; Ibrahim et al., 2017) should be done by policy makers. This is particularly in line with KSA's Vision 2030 and the imminent plans to

augment staff productivity and the success of training courses in various fields, particularly for service-oriented industries such as medicine, education, or public service.

- **Leadership development**

  The results from this study indicated the positive effects of an EI training programme on developing or improving the leadership skills among the participants. If a widespread or universal EI training programme cannot be offered to all employees in an organization, then it is recommended that such programmes be made available to those at a managerial level. It is expected that organizations would be able to increase overall productivity by equipping their managers with the personal and social EI skills needed to become better leaders.

Overall conclusion

The purpose of this study was to determine whether the implementation of an EI training programme would result in changes in the study participants' personal and social EI skills, self-efficacy, leadership styles, and perceptions of power. This study is one of the first to explore these constructs within the Saudi Arabian context, particularly among nursing college employees. While the effectiveness of the implemented EI training programme with regard to improving personal and social EI skills, leadership skills, and self-efficacy was observed in this study, more research is needed to explore how the concept of EI relates to perceptions of power, particularly in light of the pre-existing and rigid hierarchy of organizations in the high power distance culture of Saudi Arabia. The need to explore which aspects of the implemented EI training programme were most useful or relevant to practical working conditions was also identified. Overall, the results of this study contribute to the existing knowledge on EI, and provide support for the implementation of EI training programmes to develop EI, self-efficacy, and leadership traits among employees.

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Appendix (1) Hawker's Assessment Tool

Hawker's Assessment Tool

Author and title:					
Date:			Score		
	Good 4	Fair 3	Poor 2	Very poor 1	Comment
1. Abstract and title					
2. Introduction and aims					
3. Method and data					
4. Sampling					
5. Data analysis					
6. Ethics and bias					
7. Findings/results					
8.Transferability/generalizability					
9. Implications and usefulness					
Total					

1. **Abstract and title: Did they provide a clear description of the study?**

Good Structured abstract with full information and clear title.

Fair Abstract with most of the information**.**

Poor Inadequate abstract.

Very Poor No abstract.

2. Introduction and aims: Was there a good background and clear statement of the aims of the research?

Good	Full but concise background to discussion/study containing up-to-date literature review and highlighting gaps in knowledge.
	Clear statement of aim AND objectives including research questions.
Fair	Some background and literature review.
	Research questions outlined.
Poor	Some background but no aim/objectives/questions, OR
	Aims/objectives but inadequate background.
Very Poor	No mention of aims/objectives.
	No background or literature review.

3. Method and data: Is the method appropriate and clearly explained?

Good	Method is appropriate and described clearly (e.g., questionnaires included).
	Clear details of the data collection and recording.
Fair	Method appropriate, description could be better.
	Data described.
Poor	Questionable whether method is appropriate.
	Method described inadequately.
	Little description of data.
Very Poor	No mention of method, AND/OR
	Method inappropriate, AND/OR
	No details of data.

4. Sampling: Was the sampling strategy appropriate to address the aims?

Good	Details (age/gender/race/context) of who was studied and how
	They were recruited. Why this group was targeted.
	The sample size was justified for the study.
	Response rates shown and explained.
Fair	Sample size justified.
	Most information given, but some missing.
Poor	Sampling mentioned but few descriptive details.

Very Poor No details of sample.

5. Data analysis: Was the description of the data analysis sufficiently rigorous?

Good Clear description of how analysis was done.

Qualitative studies: Description of how themes derived/

Respondent validation or triangulation.

Quantitative studies: Reasons for tests selected hypothesis driven/

Numbers add up/statistical significance discussed.

Fair Qualitative: Descriptive discussion of analysis.

Quantitative.

Poor Minimal details about analysis.

Very Poor No discussion of analysis.

6. Ethics and bias: Have ethical issues been addressed, and what has necessary ethical approval gained? Has the relationship between researchers and participants been adequately considered?

Good Ethics Where necessary issues of confidentiality, sensitivity,

And consent were addressed.

Bias: Researcher was reflexive and/or aware of own bias.

Fair Lip service was paid to above (i.e., these issues were

Acknowledged).

Poor Brief mention of issues.

Very Poor No mention of issues.

7. Results: Is there a clear statement of the findings?

Good Findings explicit, easy to understand, and in logical progression.

Tables, if present, are explained in text.

Results relate directly to aims.

Sufficient data are presented to support findings.

Fair Findings mentioned but more explanation could be given.

Data presented relate directly to results.

Poor	Findings presented haphazardly, not explained, and do not Progress logically from results.
Very Poor	Findings not mentioned or do not relate to aims.

8. Transferability or generalizability: Are the findings of this study transferable (generalizable) to a wider population?

Good	Context and setting of the study is described sufficiently to allow comparison With other contexts and settings, PLUS high score in Question 4(sampling).
Fair	Some context and setting described, but more needed to replicate Or compare the study with others, PLUS fair score or higher in Question 4.
Poor	Minimal description of context/setting.
Very Poor	No description of context/setting.

9. Implications and usefulness: How important are these findings to policy and practice?

Good	Contributes something new and/or different in terms of Understanding/insight or perspective. Suggests ideas for further research. Suggests implications for policy and/or practice.
Fair	Two of the above (state what is missing in comments).
Poor	Only one of the above.
Very Poor	None of the above

Appendix (2) Examples of appraising articles using Hawker's Assessment Tool

Author and title:Ibrahim, N., Algethmi, W., Binshihon, S., Almahyawi, R., Alahmadi, R., & Baabdulla, M. (2017). Predictors and correlations of emotional intelligence among					
Date:			Score		
	Good 4	Fair 3	Poor 2	Very poor 1	Comment
1. Abstract and title		3			
2. Introduction and aims	4				
3. Method and data	4				
4. Sampling	4				
5. Data analysis	4				
6. Ethics and bias	4				
7. Findings/results	4				
8.Transferability/generalizability		3			
9. Implications and usefulness	4				
Total	34				

Hur, Y., van den Berg, P. T., and Wilderom, C. P. M. (2011). Transformational Leadership as a Mediator between Emotional Intelligence and team outcomes. The					
Date:		Score			
	Good 4	Fair 3	Poor 2	Very poor 1	Comment
1. Abstract and title	4				
2. Introduction and aims		3			
3. Method and data	4				
4. Sampling		3			
5. Data analysis	4				
6. Ethics and bias	4				
7. Findings/results		3			
8.Transferability/generalizability	4				
9. Implications and usefulness	4				
Total	33				

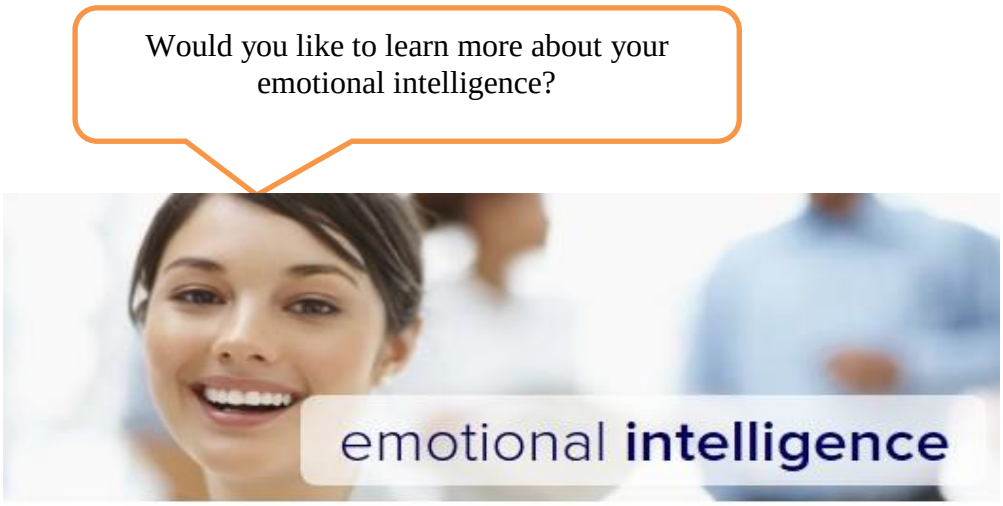
Author and title:Gorgas, D., Greenberger, S., Bahner, D., and Way, D. (2015) Teaching Emotional Intelligence: A Control Group Study of a Brief Educational Intervention for					
Date:		Score			
	Good 4	Fair 3	Poor 2	Very poor 1	Comment
1. Abstract and title	4				
2. Introduction and aims		3			
3. Method and data	4				
4. Sampling	4				
5. Data analysis	4				
6. Ethics and bias	4				
7. Findings/results	4				

8.Transferability/generalizability			2		
9. Implications and usefulness	4				
Total	31				

Author and title:Nelis, D., Quiodback, J., Mikolajczak, M., and Hansenne, M. (2009) Increasing Emotional Intelligence: (How) is it Possible? *Personality and Individual*					
Date:		Score			
	Good 4	Fair 3	Poor 2	Very poor 1	Comment
1. Abstract and title		3			
2. Introduction and aims	4				
3. Method and data		3			
4. Sampling		3			
5. Data analysis	4				
6. Ethics and bias		3			
7. Findings/results	4				
8.Transferability/generalizability			2		
9. Implications and usefulness		3			
Total	29				

Appendix (3) Study Advertisement

Study about the training on increasing emotional intelligence level and its effects on leadership style and self- efficacy



Why we need Emotional intelligence

Over the past 30 years, emotional intelligence has appeared as a new theory in the area of intelligence model that has been successfully utilised for innovative practices in education, psychology, and in the various facets of organisational development (Codier et al., 2009). Indeed, within a body of research that is composed of hundreds of research both inside and outside of nursing practices. emotional intelligence levels have been linked with organisational outcomes such as increased individual productivity, employee preservation, team efficiency, enhanced communication, collaboration and organisational loyalty, a range of psychological and physiological measures related to employee wellness, reduced exhaustion, and positive adaption skills (Cote, 2006 and Schutte et al., 2007).

If you decide that you would like to take part in the study and for further information, please contact the researcher:*Maha Alreshidi, PhD student*
University of Salford, M6 6PU.
Email: M.S.Alreshidi@edu.salford.ac.uk

Appendix (4) Participant's information sheet:

(Intervention group)
(Version 2, 24 October 2015)

Study title: The impact of Emotional Intelligence training on level of emotional intelligence, leadership styles, sense of power and self-efficacy

I am currently completing a research study for my PhD in Nursing at the University of Salford. I would like to invite you to be part of this research study. Ethical approval has been obtained from the University of Salford and it is important that you understand both the purpose of the research and your role as a participant. Please ask any questions if any part of the information is unclear to you. Finally, it is your decision whether or not to be part of the study and you may withdraw at any time.

What is the purpose of the study?

This research seeks to investigate the impact of emotional intelligence on the leadership style, sense of power and self-efficacy in Hail University, Saudi Arabia.

Why have I been invited?

You have been asked because, you area faculty staffworking at Nursing College inHail University.

Do I have to take part?

It is your choice as to whether you want to participate in this study. This information sheet will provide details to help you make this decision and you can contact me if you have any question about the research. If you agree to be part of the study, you will be asked to sign a consent form. You are free to withdraw at any point while taking part in the study.

What will happen to me if I take part

You will be invited to attend an educational workshop, 6 hours for one day, in *Alsharq* Hall in Hail main branch and *Yamamah* Hall building in Alshanan branch in Hail University about emotional intelligence implications in leadership effectiveness, work engagement and self-efficacy after your agreement to take part in the study. You will be invited to complete

questionnaires at three set points: before-immediately the intervention, one month and three months later.

The questionnaire will be confidential and stored safely. The study will have two forms of data, electronic copy and a hard copy). Hard copy data will be kept in a locked locker and no one will be authorized to use it except the researcher. The soft copy data will be secured in a password protected external hard disk and will be connected only to researcher private laptop, only the researcher can access the saved study data. Your identity will be kept secure by the researcher.

What are the possible disadvantages and risks of taking part?

There are no personal risks associated with participation in the study

What if there is a problem?

If you have questions about any aspectregarding this study, you can contact me on +966500803443 or at m.s.alreshidi@edu.salford.ac.uk, or you can contact the first supervisor DrDoctor Ashley Weinberg, A.weinberg@salford.ac.uk. In the first instance, or you may contact the Secretary of the University of Salford Research Ethics Committee on +44161 92662784 Thank you for giving your valuable time in reading this letter.

Regards.

Maha Alreshidi

PhD Candidate

School of Health and Social Sciences University of Salford

Will my taking part in the study be kept confidential?

The information that you provide will be confidential. No names will appear in the study. Your identity and personal contact details will be known only to the researcher, the research assistants, and the research supervisors at the University of Salford. The researcher will not use your name or any information that could reveal their identity in this or any future research study, publication, conference presentation or teaching session. Storage and destruction of data will conform to the Data Protection Act (1998). Any information about you which leaves the Ministry of Higher Education will have your name and address removed so that you cannot be recognised.

What will happen if I don't carry on with the study?

You have the right to withdraw from the study at any point without prejudice and this will not affect your employment in any way. If you withdraw from the study all the information and data collected from you will be destroyed and your name removed from all the study files.

What will happen to the results of the research study?

The results will be published in a PhD thesis and parts of the study may be published in nursing leadership journals and/or presented at conferences. You have the right to ask for the results if needed and the choice of seeing the completed statistical analysis.

Who is organising or sponsoring the research?

The University of Salford and Ministry of Higher Education Saudi Arabia.

If there are any further questions regarding this study, you can contact me (by phone or email) or my supervisors (by email) as follows. If you prefer, we can arrange to discuss this invitation, face to face, at a mutually convenient place and time.

Thank you for taking the time to read this leaflet.

Contact Details

Researcher: Maha Alreshidi, contact me on +966500803443 or at m.s.alreshidi@edu.salford.ac.uk

Supervisors: DrDoctor Ashley Weinberg, A.weinberg@salford.ac.uk.

Thank you for giving your valuable time in reading this letter.

Regards

PhD candidate

School of Health & Social Sciences ,University of Salford, Salford, Greater Manchester, United Kingdom, M6 6PU.

Participant's information sheet:

(Control group)

(Version 2, 24 October 2015)

Study title:

The impact of Emotional Intelligence on the leadership effectiveness for the leaders and self-efficacy for the staffs in nursing faculty of Hail University, Saudi Arabia, I am currently completing a research study for my PhD in Nursing at the University of Salford. I would like to invite you to be part of this research study. Ethical approval has been obtained from the University of Salford and it is important that you understand both the purpose of the research and your role as a participant. Please ask any questions if any part of the information is unclear to you. Finally, it is your decision whether or not to be part of the study and you may withdraw at any time.

What is the purpose of the study?

This research seeks to investigate the impact of emotional intelligence on the leadership style and effectiveness in Hail University, Saudi Arabia.

Why have I been invited?

You have been asked because, you are a faculty staff working at Nursing College in Hail University.

Do I have to take part?

It is your choice as to whether you want to participate in this study. This information sheet will provide details to help you make this decision and you can contact me if you have any question about the research. If you agree to be part of the study, you will be asked to sign a consent form. You are free to withdraw at any point while taking part in the study.

What will happen to me if I take part?

- You will be asked for consent to fill questionnaire at three set points: before the intervention, immediately after and at three month follow-up.
- The questionnaire is intended to explore the quality of leadership you have recognised through engagement with your leaderin your place of work.
- The questionnaire will be confidential and stored safely. The study will have two forms of data, electronic copy and a hard copy (in-line with NHS data retention policy). Hard copy data will be kept in a locked locker and no one will be authorized to use it except the

researcher. The soft copy data will be secured in a password protected external hard disk and will be connected only to researcher private laptop, only the researcher can access the saved study data. Your identity will be kept secure by the researcher.

Expenses and payments?

The Ministry of Higher Education will cover any expenses for this research.

What are the possible disadvantages and risks of taking part?

There are no personal risks associated with participation in the study

What if there is a problem?

If you have questions about any aspect regarding this study, you can contact me on +966500803443 or at m.s.alreshidi@edu.salford.ac.uk, or you can contact the first supervisor DrDoctor Ashley Weinberg, A.weinberg@salford.ac.uk. In the first instance, or you may contact the Secretary of the University of Salford Research Ethics Committee on +44161 92662784 Thank you for giving your valuable time in reading this letter.

Regards.

Maha Alreshidi

PhD Candidate

School of Health and Social Sciences University of Salford

Will my taking part in the study be kept confidential?

The information that you provide will be confidential. No names will appear in the study. Your identity and personal contact details will be known only to the researcher, the research assistants, and the research supervisors at the University of Salford. The researcher will not use your name or any information that could reveal their identity in this or any future research study, publication, conference presentation or teaching session. Storage and destruction of data will conform to the Data Protection Act (1998). Any information about you which leaves the Ministry of Higher Education will have your name and address removed so that you cannot be recognised.

What will happen if I don't carry on with the study?

You have the right to withdraw from the study at any point without prejudice and this will not affect your employment in any way. If you withdraw from the study all the information and data collected from you will be destroyed and your name removed from all the study files.

What will happen to the results of the research study?

The results will be published in a PhD thesis and parts of the study may be published in nursing leadership journals and/or presented at conferences. You have the right to ask for the results if needed and the choice of seeing the completed statistical analysis.

Who is organising or sponsoring the research?

The University of Salford and Ministry of Higher Education Saudi Arabia. If there are any further questions regarding this study, you can contact me (by phone or email) or my supervisors (by email) as follows. If you prefer, we can arrange to discuss this invitation, face to face, at a mutually convenient place and time.

Thank you for taking the time to read this leaflet.

Contact Details

Researcher: Maha Alreshidi, contact me on +966500803443 or at m.s.alreshidi@edu.salford.ac.uk

Supervisors: DrDoctor Ashley Weinberg, A.weinberg@salford.ac.uk.

Thank you for giving your valuable time in reading this letter.

Regards

PhD candidate

School of Health & Social Sciences

University of Salford, Salford, Greater Manchester, United Kingdom, M6 6PU

Appendix (5) Consent Form

Research Participant Consent Form for (Intervention group)(Version 2, 24 October 2015)

Title of Project: The impact of an educational programme to develop Emotional Intelligence to enhance leadership effectiveness, work engagement and self-efficacy

Ethics Ref No:

Name of Researcher:

1.	I confirm that I have read and understood the information sheet (version 2, 24 October 2015) for the above study and what my contribution will be.	**Yes** **No**
2.	I have been given the opportunity to ask questions through the use of questionnaire	**Yes** **No**
3.	I agree to take part in the educational programme group study	**Yes** **No**
4.	I agree to the questionnaire be stored confidentially	**Yes** **No**
5.	I understand that my participation is voluntary and that I can withdraw from the research at any time without giving any reason	**Yes** **No**
6.	I agree to keep what happens within the workshop confidential.	**Yes** **No**
7.	**I agree to take part in the above study**	**Yes** **No**

Name of participant
(print) ……

Signature ……

Date …….

This form should be completed and returned in a sealed envelope to the department office.

Appendix (6) Study questionnaires.

Participant Number ……

Thank you for taking the time to complete this questionnaire. The questionnaire is divided into five sections. **Your answers will be strictly confidential.**	Please do not write in this column
Section 1please answer the below statements about you by choice the number best reflect you or writing up where it is needed. 1. Your Gender 1 Male — 2 Female ☐ ☐	
2. Your Age …….	
3. Your Educational level. 1 Bachelor; 2 Master; 3 PhD; 4 Other ☐ Other (specify)……..	
4. Your Occupation. 1 Dean; 2 Vice dean; 3 Vice dean Coordinator; 4 Head of department; 5 Department coordinator; 6 Faculty member ☐	
5.YourMarital status. 1 Single; 2 Married; 3 Divorced; 4 widowed ☐	
6.Years of experience in your current job at Hail University. ……..	

Section 2: Please answer each statement below by putting the number that best reflects your degree of agreement or disagreement with that statement.

1	2	3	4	5
strongly disagree	**somewhat disagree**	**neither agree nor disagree**	**somewhat agree**	**strongly agree**

1. I know when to speak about my personal problems to others. ☐
2. When I am faced with obstacles, I remember times I faced similar obstacles and overcame them. ☐
3. I expect that I will do well on most things I try. ☐
4. Other people find it easy to confide in me. ☐
5. I find it hard to understand the non-verbal messages of other people. ☐
6. Some of the major events of my life have led me to re-evaluate what is important and not important. ☐
7. When my mood changes, I see new possibilities. ☐
8. Emotions are one of the things that make my life worth living. ☐
9. I am aware of my emotions as I experience them. ☐
10. I expect good things to happen. ☐
11. I like to share my emotions with others. ☐
12. When I experience a positive emotion, I know how to make it last. ☐
13. I arrange events others enjoy. ☐
14. I seek out activities that make me happy. ☐
15. I am aware of the non-verbal messages I send to others. ☐
16. I present myself in a way that makes a good impression on others. ☐
17. When I am in a positive mood, solving problems is easy for me. ☐
18. By looking at their facial expressions, I recognize the emotions people are experiencing. ☐
19. I know why my emotions change. ☐
20. When I am in a positive mood, I am able to come up with new ideas. ☐
21. I have control over my emotions. ☐
22. I easily recognize my emotions as I experience them. ☐

23. I motivate myself by imagining a good outcome to tasks I take on. ☐	
24. I compliment others when they have done something well. ☐	
25. I am aware of the non-verbal messages other people send. ☐	
26. When another person tells me about an important event in his or her life, I almost feel as though I experienced this event myself. ☐	
27. When I feel a change in emotions, I tend to come up with new ideas. ☐	
28. When I am faced with a challenge, I give up because I believe I will fail. ☐	
29. I know what other people are feeling just by looking at them. ☐	
30. I help other people feel better when they are down. ☐	
31. I use good moods to help myself keep trying in the face of obstacles. ☐	
32. I can tell how people are feeling by listening to the tone of their voice. ☐	
33. It is difficult for me to understand why people feel the way they do. ☐	

Section3: Please answer each statement below by putting the number that best reflects your degree of agreement or disagreement with that statement about your sense of power in dealings with others in your work place.

1	2	3	4	5	6	7
Disagree strongly	**disagree**	**Disagree A little**	**Neither Agree nor disagree**	**Agree a little**	**agree**	**agree Strongly**

1. I can get him/her /them to listen to what I say ☐	
2. My wishes do not carry much weight ☐	
3. I can get him /her/them to do what I want ☐	
4. Even if I voice them, my views have little sway. ☐	
5. I think I have a great deal of power. ☐	
6. My ideas and opinions are often ignored. ☐	
7. Even when I try, I am not able to get my way. ☐	
8. If I want to, I get to make the decisions. ☐	

Section 4: Please answer each statement below by putting the number that best reflects how true you believe each statement to be. There are no right or wrong answers.

0	1	2	3
Not at all true	Hardly true	Moderately true	Exactly true

1. I can always manage to solve difficult problems if I try hard enough. ☐
2. If someone opposes me, I can find the means and way to get what I want. ☐
3. It is easy for me to stick to my aims and accomplish my goals. ☐
4. I am confident that I could deal efficiently with unexpected events. ☐
5. Thanks to my resourcefulness, I know how to handle unforeseen situations. ☐
6. I can solve most problems if I invest the necessary effort. ☐
7. I can remain calm when facing difficulties because I can rely on my coping abilities. ☐
8. When I am confronted with a problem, I can usually find several solutions. ☐
9. If I am in trouble, I can usually think of a solution. ☐
10. I can usually handle whatever comes my way. ☐

Section 5: Please answer each statement below by putting the number that best reflects the frequency of the behavior in your job role (as a manager /supervisor or teacher /advisor of students).

0	1	2	3	4
Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always

1. I make others feel good to be around me. ☐

2. I express with a few simple words what we could and should do. ☐	
3. I enable others to think about old problems in new ways. ☐	
4. I help others develop themselves. ☐	
5. I tell others what to do if they want to be rewarded for their work. ☐	
6. I am satisfied when others meet agreed-upon standards. ☐	
7. I am content to let others continue working in the same way as always. ☐	
8. Others have complete faith in me. ☐	
9. I provide appealing images about what we can do. ☐	
10. I provide others with new ways of looking at puzzling things. ☐	
11. I let others know how I think they are doing. ☐	
12. I provide recognition/rewards when others reach their goals. ☐	
13. As long as things are working, I do not try to change anything. ☐	
14. Whatever others want to do is O.K. with me. ☐	
15. Others are proud to be associated with me. ☐	
16. I help others find meaning in their work. ☐	
17. I get others to rethink ideas that they had never questioned before. ☐	
18. I give personal attention to others who seem rejected. ☐	
19. I call attention to what others can get for what they accomplish. ☐	
20. I tell others the standards they have to know to carry out their work. ☐	
21. I ask no more of others than what is absolutely essential. ☐	

END OF QUESTIONNAIRE

Thank you for giving so much of your time to complete this questionnaire

Appendix (7) Education timetable and content of the workshop programme

Time	Topic	Objectives
9:00 - 9:30 pm	Introduction about the study (purposes, phrases participant roles)	
9:30 -11:00 am	Emotional intelligence: Definition, benefit and historical background.	At the end of this session you will be able to: • Define emotional intelligence • Recognise the need and benefit of emotional intelligence • Identify the historical background of emotional intelligence • Know the differences between emotional intelligence and intelligence quotient and its limitation • Aware of different
11:00 - 11:15 am		Coffee break.
11:15 -12 pm	Strategy for emphasising self-awareness and self-management skills.	At the end of this session you will be able to: Use of emotional intelligence skills to improve: 1) Self-awareness. 2) Self-management.
12:00 - 1:00 pm		Pray & lunch break.
1:00 - 2:30 pm	Strategy for emphasising social- awareness and social-management skills.	At the end of this session you will be able to: • Use of emotional intelligence skills to improve: 1) Social-awareness. 2) Social-management
2:30 - 3:00 pm	Session closing & post-test evaluation.	

Appendix (8) Workshop Programme.

EMOTIONAL INTELLIGENCE: DEFINITION

What is emotional intelligence?

- Emotional intelligence is the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions.
- Emotional intelligence is also a part of Gardner's view of social intelligence, which he refers to as the personal intelligences. Like social intelligence, the personal intelligences (divided into inter- and intrapersonal intelligence) include knowledge about the self and about others.
- Goleman *et al.* (2002) described four domains and nineteen associated competencies evident in emotional intelligence. These are not innate talents, rather learned abilities. The Goleman's theory on emotional intelligence breaks down the four domains: self-awareness, self-management, social awareness, and relationship management.
- One aspect of the personal intelligence relates to feelings and is quite close to what we call emotional intelligence.
- Mayer and Salovey (1990) introduced the term - describes a person's ability to understand their own emotions and the emotions of others and to act appropriately based on this understanding to manage self and other.
- Emotional intelligence is not about being nice all the time- It is about being honest.
- Emotional intelligence is not about being "touchy- feely."- It is about being aware of your feelings, and those of others.
- Emotional intelligence is not about being emotional-It is about being smart with your emotions

- EI is more than twice as predictive of performance than IQ (Goleman, 2002)

History of Emotional Intelligence

- In 1983, Gardner first published his theory, derived from extensive brain research, on multiple intelligence including intrapersonal (self-awareness/self-management) and interpersonal (relationship awareness/management).
- Reuven Bar-On (1988) has placed EI in the context of personality theory, specifically a model of well-being.
- Peter Salovey and John Mayer first proposed their theory of emotional intelligence (EI) in 1990 and defined it.
- Goleman (1995-2003) has popularised the concept of emotional intelligence and formulated EI in terms of a of a theory of job and work performance

THE TOP THREE MODELS OF EMOTIONAL INTELLIGENCE

Salovey-Mayer Model

The Salovey-Mayer model of emotional intelligence began with the idea that emotions contain information about relationships. This model's own analysis of emotion-related abilities led to a division of emotional intelligence into four areas of skills. These areas were called branches in reference to the diagrams in which they were first introduced. The four-branch model divides emotional intelligence into four areas, accuracy in:

a) Perceiving emotions
b) Using emotions to facilitate thought
c) Understanding emotions
d) Managing emotions in a way that enhances personal growth and social relations.

This model viewed a distinction between the second branch (using emotions to facilitate thought) and the other three. Whereas Branches 1, 3, and 4 involve reasoning about emotions, Branch 2 uniquely involves using emotions to enhance reasoning.

Finally, the four branches are viewed as forming a hierarchy, with emotional perception at the bottom and management at the top. This four branch model serves as a basis of current reviews of the field.

Bar-On Model

Bar-On's definition of this construct states that emotional and social intelligence is a cross-section of interrelated emotional and social competencies that determine how effectively we understand and express ourselves, understand others, relate with them, and cope with daily demands and pressures. The emotional and social competencies described in this conceptualization of the construct include the five key components and each of these components comprises a number of closely related emotional and social competencies, all of which are measured by the EQ-i. After more than a couple of decades of empirically developing this model, the author believed that self motivation is a facilitator of emotionally and socially intelligent behaviour rather than an actual component of the construct itself.

Goleman Emotional Intelligence Model

A third view of emotional intelligence was popularised by Goleman in 1995. He created a model that also was mixed, with five broad areas including:

a) Knowing one's emotions
b) Managing emotions
c) Motivating oneself
d) Recognising emotions in others
e.) Handling relationships

His list of specific attributes under motivation, for example, include, marshalling emotions, delaying gratification and stifling impulsiveness, and entering flow states. Goleman recognised

that he was moving from emotional intelligence to something far broader. Furthermore, Goleman claims predictive validity of this model in that emotional intelligence will account for success at home, at school, and at work.

LEADERSHIP COMPETENCIES AND EMOTIONAL INTELLIGENCE SKILLS

SELF AWARENESS

Self-awareness is a term that means an individual's quality and characteristic by which one gets aware of the emotional state that he is experiencing at one stage in a given situation.

A. Emotional self-awareness

- It is the first essential component of intra-personal awareness. It is in fact the gateway and window to inner self, what we feel and why do we feel in a particular way.
- Knowing your thoughts, feelings, and behaviours and recognising their impact is necessary for *Self-control* and Emotional Mastery which is the basis for *Empathy*.
- Using an educated "gut sense" to guide decisions necessary.
- The ability to recognise and understand one's feelings and emotions, differentiate between them, know what caused them and why.
- Awareness of our own emotional states is the foundation of all the E.I. skills.
- Emotional self-awareness according to:
    - Goleman: it is the quality of recognising one's emotions and their effects
    - Boyatzis: it is an important skill to build one's EI. It is a focusing ability, knowing the internal metres and subtle signs that tell an individual of his feelings and using them as an ongoing guide.

- Mayer: means being aware of both our mood and our thoughts about that mood

Practicing Self-awareness skills

Skills:

- Name feelings.
- Handle intensity of feeling by breathing into the feeling 3x -this prevents need for blame.
- Aware of self-talk and change negative to neutral or positive (reframe).

Strategies to strengthen skills:

- Journaling helps with becoming Impeccable with your word & creating neutral descriptive perspective
- Progressive relaxation every day for a month and create a cue word/phrase so can cue relaxation during stress
- Visualise handling difficult/stressful situations using all your skills
- Use short positive script to keep focus positive.

B. Accurate Self-assessment

- Knowing the strengths and weaknesses and being able to own them, these are the basis of, prevents need for blame and necessary for *Transparency* and *Adaptability*.
- Owning strengths and weaknesses decreases the need to be defensive and blame others.
- Key is being impeccable with your word to accurately describe your strengths and weakness.

- As strengths and weaknesses are accurately assessed, you recognise that you work toward Doing Your Best, knowing that your best fluctuates
- Practicing Accurate Self-assessment skills
- Learn from mistakes
- Be open to feedback.

C. Self-Confidence

- A Strong sense of one's Self-worth & capabilities
- Sound sense of self-worth and belief in ability to act includes sense of humour
- Does not personalise other's behaviour or make assumptions about intent
- Basis for *Achievement, Initiative, Optimism* and Courage
- Practicing self-confidence skills
- Accurate self-assessment; Present themselves with self-assurance.
- Have Humility-own mistakes, vulnerabilities and limitations.
- Focus is on achieving results and connecting with people; -Give credit to other.
- Failure is important feedback.

SELF MANAGEMENT

A. Self-Control.

Ability to name feelings and accept intensity of feelings without doing anything about them

Key to Being Impeccable with your word and choosing how to respond to difficult situations

B. Transparency

Displays authentic openness by owning one's feelings

Admitting mistakes

Taking responsibility for personal performance

Being open to new ideas

C. Adaptability

Requires flexibility

Being open to new information and ways of doing things

Persistence in pursuing goals despite obstacles and setbacks

Not getting lost in procedures

D. Achievement

Drive to do your best every day by recognising your values, goals, and dreams

Focus on learning and teaching was to do better so continually work to reaching goals.

E. Initiative

Seizes opportunities by using group core values in making decisions and clarifying choices

Create opportunities rather than wait

F.Optimism

Seeing upside in events by viewing setbacks as learning opportunities and not personal flaws

Practicing self-management skills

- Exercise, take your breaks and walk
- Breathe deeply 3x during stress.
- Brain-friendly Take a 1-2 minute break & visualize a relaxing place every 90 minutes.
- Being open to new ideas
- Able to acknowledge needs to self and others
- Does not take things personally
- Make sure your self-talk is neutral or positive
- Be aware of expectations of self and others
- Let go of what you cannot change/control.

Activity One

At this point, the first activity was commenced. It aimed at enhancing the self-awareness skills of the participants by allowing them to come up with self-awareness plan. The participants were asked to pair with the person beside them for this activity. The activity focused on self-awareness and self-motivation, knowing their strengths and weaknesses as well as what actions are done.

SOCIAL AWARENESS

A. Empathy

A will to understand

Attuned to the emotional signals that are unspoken in a person or group so you can grasp the other person's perspective

Key to getting along with diverse people and cultures

Basis for Inspiration, Influence, Developing others

Key in Conflict Management and Teamwork and Collaboration

Empathy is our social radar and begins inside: being able to see reality from their perspective; to sense how employees are reacting to the department's actions; a powerful set of reality.

Empathy Practicing Skills

1. Listening is vehicle to empathy
2. Ability to walk in the others shoes & let the person know you understand
3. Mirror body language softly
4. Pace nonverbal language of speaker
5. Summarize what they are saying verbally and nonverbally
6. Understand the function of someone's behaviour not just the outward behaviour

Activity Two

At this point of the educational programme, activity two was commenced in order to enhance active listening and feedback skills as well as to apply the abovementioned construct of empathy.

The participants were grouped into small groups of three. The three members are assigned roles being the speaker, listener, and observer. Once organised, the speaker talks about something that happened to him/her the past week for three minutes. The listener uses his/her body to let the speaker know that he/she is being listened to. The observer, on the other hand, watches the listener and looking to see the ways in which the listener is using his/her body to show that he/she is listening. The speaker is also observed whether he/she responds to the listener's moves. After which, the members were allowed to discuss amongst themselves what each person observed and felt.

Following the discussion, staying in the same group, the skill of feedback was to be enhanced by giving comments. The speaker and the listener switch roles this time. The new speaker will "feedback" what was heard (for 3 minutes). The new listener must demonstrate active listening using their body and give the speaker feedback when appropriate. The observer listens to hear if the listener is giving appropriate feedback. The observer will watch the speaker to observe reactions to the feedback, to help them decide whether the feedback was useful or not.

B. Organizational Awareness

Builds on empathy and is directed to the organization

Detect crucial social networks and understands forces at work in organization including the guiding values and unspoken rules operating among people

Basis for Change catalyst and Teamwork and Collaboration

Key to Focusing on the Whole.

C. Service

Foster an emotional climate where people are in touch with the customer or client and keep the relationship on track

Ensure customers are getting what they need and make themselves available as needed.

Practice Organisational and Services Awareness Skills

1. Social Competency and know how to connect with others is key to developing
2. Networks necessary to understand the organization
3. Process comments: begin with an observation of individual or group behaviour as it relates to the goals of the organization
4. Ability to maintain focus on the whole.

RELATIONSHIP MANAGEMENT

A Inspiration

Inspire and create resonance with a compelling vision or shared mission

Embody what they ask of others, articulate a shared mission in a way that others follow

Make work exciting

Comfortable giving feedback.

Focus on the positive.

Assist employees to maintain emotional mastery and self-control.

Able to connect individual's needs, dreams, goals to organization's mission/purpose, to changing environment or culture and find what needs to change.

Adaptable to changing needs/goals.

Views change with Optimism.

B. Influence

Knowing how to build buy-in from key people and network support for an initiative Are persuasive and engaging when talk to a group.

C. Developing others

Cultivate people's abilities

Understanding their goals, strengths, and weaknesses

Can give timely and constructive feedback

Natural mentors or coaches.

D. Change catalyst

Recognise the need for change

Challenge status quo

Champion new order

Find practical ways to overcome barriers to change

E. Conflict Management

Able to draw out all parties understand differing perspectives and find a common ideal

Bring conflict to surface

Acknowledge all feelings and views

Redirect energy toward a shared ideal

F.Teamwork and Collaboration

Friendly collegiality, model respect, helpfulness, cooperation

Draw others into active commitment to collective effort

Build spirit and identity

Activity Three

The third activity is a case study that is intended to develop and/or enhance relationship management. The reactions of the participants highlight the constructs emphasised in relationship management such as communication, influence, leadership, conflict management, and team capabilities.

Case Study: In a busy hospital, it is the middle of the day and the nurse manager in charge is taken ill. This leaves two senior nurses responsible for the running of the ward. That afternoon there is a problem with the power supply to the ward and the nurses face a difficult choice. There are two patients attached to machines to help them continue breathing: One is young and one is old. The nurses are told that the power supply will have to be interrupted for a few minutes, but there is the chance to move only one of the patients to another ward where the power supply will remain on continuously. The two nurses disagree about which patient to move to the safer ward – they begin to argue in front of the patients and their emotions are obvious. They turn to you for advice on how to solve the conflict.

The participants were then asked to what ways would they advise the nurses to behave differently to help them reach a decision about this very difficult situation.

Appendix (9) Salford University ethical approval

University of Salford MANCHESTER

Research, Innovation and Academic Engagement Ethical Approval Panel

Research Centres Support Team
G0.3 Joule House
University of Salford
M5 4WT

T +44(0)161 295 2280

www.salford.ac.uk/

4 November 2015

Dear Maha,

RE: ETHICS APPLICATION HSCR 15-70 – The impact of Emotional Intelligence educational programme on the leadership effectiveness, work engagement and self-efficacy of the leaders and staff of nursing faculty in Hail University.

Based on the information you provided, I am pleased to inform you that application HSCR15-70 has been approved.

If there are any changes to the project and/ or its methodology, please inform the Panel as soon as possible by contacting Health-ResearchEthics@salford.ac.uk

Yours sincerely,

Sue McAndrew
Chair of the Research Ethics Panel

Appendix (10) Hail University ethical approval

الرقم : .....
التاريخ : .....
المرفقات : .....

جامعة حائل
University of Ha'il

المملكة العربية السعودية
وزارة التعليم العالي
Kingdom of Saudi Arabia
Ministry of Higher Education

Dear Mrs Maha Alreshidi **5 May 2015**

It is my pleasure to inform you that we approved your study titled: The impact of Emotional Intelligence on the leadership effectiveness, work engagement and self-efficacy for the leaders and staffs of nursing faculty in Hail University in Saudi Arabia.

Please be informed that in conducting this study, you as principle investigator is required to abide by the rules and regulations of Government of Saudi Arabia and Ministry of Education.

The approval of this proposal will start in the first of November 2015 and then will automatically be suspended one year later pending the replication to renew the approval.

Please observe the following:

1. Personal identifying data should only be collected when necessary for research;
2. The data collected should only be used for this proposal;
3. Data should be stored securely so that only a few authorised users are permitted access to the database;
4. Secondary discloser of personal identified data is not allowed.

An ethical approval from human committee in Salford University United Kingdom is required to begin collecting your data at College of Nursing in Hail University. University of Hail (Saudi Arabia) supports this research project and look forward to receiving a copy of the result and dissertation.

Should you have any inquires or concerns to this approval do not hesitate to contact Dr. Farhan Alshammari On+966503173913 Or by email at dr.farhan2015@gmail.com

We wish you every success in your research endeavour.

Sincerely,

Vice dean of nursing college

Dr. Farhan Alshammari

Appendix (11) Results of normality tests

Outcome measures	Shapiro-Wilk		
	Statistic	df	Sig.
Perception of emotion (pre-intervention)	0.916	168	0.000
Perception of emotion (post-intervention)	0.945	168	0.000
Perception of emotion(1 month post-intervention)	0.913	168	0.000
Perception of emotion (3 months post-intervention)	0.963	168	0.000
Managing own emotion (pre-intervention)	0.941	168	0.000
Managing own emotion (post-intervention)	0.977	168	0.006
Managing own emotion (1 month post-intervention)	0.971	168	0.001
Managing own emotion (3 month post-intervention)	0.958	168	0.000
Managing other emotion (pre-intervention)	0.955	168	0.000
Managing other emotion (post-intervention)	0.968	168	0.001
Managing other emotion (1 month post-intervention)	0.929	168	0.000
Managing other emotion (3 month post-intervention)	0.958	168	0.000
Utilization of emotion (pre-intervention)	0.946	168	0.000
Utilization of emotion (post-intervention)	0.973	168	0.002
Utilization of emotion (1 month post-intervention)	0.984	168	0.044
Utilization of emotion (3 month post-intervention)	0.946	168	0.000
Sense of power (pre-intervention)	0.977	168	0.007
Sense of power (post-intervention)	0.975	168	0.004
Sense of power (1 month post-intervention)	0.983	168	0.033

Sense of power (3 month post-intervention)	0.971	168	0.001
Self-efficacy (pre-intervention)	0.900	168	0.000
Self-efficacy (post-intervention)	0.898	168	0.000
Self-efficacy (1 month post-intervention)	0.919	168	0.000
Self-efficacy (3 month post-intervention)	0.934	168	0.000
Idealized influence (pre-intervention)	0.973	168	0.002
Idealized influence (post-intervention)	0.967	168	0.001
Idealized influence (1 month post-intervention)	0.911	168	0.000
Idealized influence (3 month post-intervention)	0.942	168	0.000
Inspirational motivation (pre-intervention)	0.940	168	0.000
Inspirational motivation (post-intervention)	0.961	168	0.000
Inspirational motivation (1 month post-intervention)	0.928	168	0.000
Inspirational motivation (3 month post-intervention)	0.885	168	0.000
Intellectual stimulation (pre-intervention)	0.948	168	0.000
Intellectual stimulation (post-intervention)	0.963	168	0.000
Intellectual stimulation (1 month post-intervention)	0.958	168	0.000
Intellectual stimulation (3 month post-intervention)	0.950	168	0.000
Individualised consideration (pre-intervention)	0.947	168	0.000
Individualised consideration (post-intervention)	0.968	168	0.001
Individualised consideration (1 month post-intervention)	0.948	168	0.000
Individualised consideration (3 month post-intervention)	0.935	168	0.000

Contingent reward (pre-intervention)	0.945	168	0.000
Contingent reward (post-intervention)	0.957	168	0.000
Contingent reward (1 month post-intervention)	0.956	168	0.000
Contingent reward (3 month post-intervention)	0.966	168	0.000
Management by exception (pre-intervention)	0.966	168	0.000
Management by exception (post-intervention)	0.959	168	0.000
Management by exception (1 month post-intervention)	0.968	168	0.001
Management by exception (3 month post-intervention)	0.966	168	0.000
Laissez-faire leadership (pre-intervention)	0.962	168	0.000
Laissez-faire leadership (post-intervention)	0.973	168	0.003
Laissez-faire leadership (1 month post-intervention)	0.972	168	0.002
Laissez-faire leadership (3 month post-intervention)	0.977	168	0.006

Appendix(12) lower and upper values of the ranges of emotional intelligence subscales

Descriptive Statistics						
	N	Range	Minimum	Maximum	Mean	
Groups	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
1.Perception of emotion	83	3.70	1.20	4.90	2.7831	.09978
2.Perception of emotion	83	3.70	1.20	4.90	2.8578	.10274
3 Perception of emotion	83	3.80	1.10	4.90	2.9012	.09775
4 Perception of emotion	83	3.60	1.40	5.00	2.7000	.08843
1.Managing own emotion	83	3.89	1.00	4.89	3.0495	.10684
2.Managing own emotion	83	3.89	1.00	4.89	3.1446	.10740
3.Managing own emotion	83	3.92	1.00	4.92	3.1205	.10455
4.Managing own emotion	83	4.00	1.00	5.00	3.1499	.08530
1.Managing other emotion	83	3.50	1.25	4.75	2.8870	.10070
2.Managing other emotion	83	3.50	1.25	4.75	2.9593	.10697
3.Managing other emotion	83	3.75	1.25	5.00	2.9910	.10247
4.Managing other emotion	83	3.75	1.25	5.00	2.9000	.08711
1.Utalisation of emotion	83	3.67	1.17	4.83	3.0703	.10668
2.Utalisation of emotion	83	3.67	1.17	4.83	3.1446	.11171
3.Utalisation of emotion	83	3.83	1.00	4.83	3.1044	.10784
4.Utalisation of emotion	83	3.83	1.17	5.00	3.1506	.09291
Valid N (listwise)	83					
1.Perception of emotion	85	3.50	1.40	4.90	2.9235	.10981
2.Perception of emotion	85	3.00	1.60	4.60	3.0765	.09011
3 Perception of emotion	85	2.90	2.00	4.90	3.8318	.07591
4 Perception of emotion	85	3.30	1.70	5.00	3.5647	.09104
1.Managing own emotion	85	3.78	1.11	4.89	3.1752	.11185
2.Managing own emotion	85	3.56	1.22	4.78	3.2993	.08241
3.Managing own emotion	85	3.00	2.00	5.00	3.8810	.07696
4.Managing own emotion	85	3.44	1.56	5.00	3.7098	.09382
1.Managing other emotion	85	3.75	1.13	4.88	3.0662	.10732
2.Managing other emotion	85	3.38	1.50	4.88	3.1647	.08434
3.Managing other emotion	85	3.25	1.75	5.00	3.8559	.08746
4.Managing other emotion	85	3.38	1.63	5.00	3.6074	.09463
1.Utalisation of emotion	85	3.67	1.17	4.83	3.2059	.10599
2.Utalisation of emotion	85	3.67	1.33	5.00	3.2765	.08963
3.Utalisation of emotion	85	3.33	1.67	5.00	3.9345	.08765
4.Utalisation of emotion	85	3.50	1.50	5.00	3.6745	.09213
Valid N (listwise)	85					

Appendix (13)lower and upper values of the ranges of sense of power and self-efficacy

Descriptive Statistics

Groups	N	Range	Minimum	Maximum	Mean	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
1.Sense of Power	83	4.38	1.75	6.13	3.8675	.09190
2.Sense of Power	83	4.25	2.13	6.38	3.9819	.07720
3.Sense of Power	83	4.00	2.00	6.00	3.9322	.07380
4.Sense of Power	83	2.75	3.00	5.75	4.0331	.06797
1.Self-Efficacy	83	1.60	2.40	4.00	3.2627	.03790
2.Self-Efficacy	83	3.00	1.00	4.00	3.1602	.05578
3.Self-Efficacy	83	1.80	2.10	3.90	3.1940	.03753
4.Self-Efficacy	83	1.50	2.50	4.00	3.1723	.03000
Valid N (listwise)	83					
1.Sense of Power	85	5.00	2.00	7.00	3.9735	.08874
2.Sense of Power	85	4.25	2.00	6.25	4.1338	.07938
3.Sense of Power	85	4.25	2.00	6.25	4.0441	.09573
4.Sense of Power	85	4.25	2.00	6.25	4.1132	.09747
1.Self-Efficacy	85	2.50	1.50	4.00	3.2365	.05843
2.Self-Efficacy	85	2.90	1.00	3.90	3.1235	.06969
3.Self-Efficacy	85	1.00	3.00	4.00	3.7176	.02506
4.Self-Efficacy	85	2.60	1.40	4.00	3.3612	.07257
Valid N (listwise)	85					

Appendix (14) lower and upper values of the rangesMultifactor Leadership Scales

Descriptive Statistics							
Groups		N	Range	Minimum	Maximum	Mean	
		Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
CG	1.Idealized Influence	83	9.00	3.00	12.00	8.1446	.23198
	2.Idealized Influence	83	9.00	3.00	12.00	8.0482	.23685
	3.Idealized Influence	83	8.00	4.00	12.00	8.2169	.21414
	4.Idealized Influence	83	9.00	3.00	12.00	8.4217	.19251
	1.Inspirational Motivation	83	9.00	3.00	12.00	7.7229	.27605
	2.Inspirational Motivation	83	8.00	4.00	12.00	8.6747	.24551
	3.Inspirational Motivation	83	9.00	3.00	12.00	7.9639	.27129
	4.Inspirational Motivation	83	8.00	4.00	12.00	8.6867	.20849
	1.Intellectual Stimulation	83	9.00	3.00	12.00	7.5542	.27601
	2.Intellectual Stimulation	83	10.00	2.00	12.00	7.3494	.26910
	3.Intellectual Stimulation	83	9.00	3.00	12.00	7.7108	.29668
	4.Intellectual Stimulation	83	9.00	3.00	12.00	8.2771	.28027
	1.Individualized Consideration	83	10.00	2.00	12.00	7.3012	.32104
	2.Individualized Consideration	83	10.00	2.00	12.00	7.5422	.26629
	3.Individualized Consideration	83	9.00	3.00	12.00	7.6386	.31728
	4.Individualized Consideration	83	9.00	3.00	12.00	8.1807	.27435
	1.Contingent Reward	83	8.00	4.00	12.00	7.6145	.26932
	2.Contingent Reward	83	8.00	4.00	12.00	7.5783	.23197
	3.Contingent Reward	83	9.00	3.00	12.00	7.8313	.26156
	4.Contingent Reward	83	9.00	3.00	12.00	8.0723	.23801
	1.Management-by-exception	83	9.00	3.00	12.00	6.8795	.20167
	2.Management-by-exception	83	9.00	3.00	12.00	7.2289	.20594
	3.Management-by-exception	83	7.00	4.00	11.00	6.9880	.19280
	4.Management-by-exception	83	8.00	2.00	10.00	6.8795	.22638

	1.Laissez-faire Leadership	83	11.00	1.00	12.00	6.8916	.24244
	2.Laissez-faire Leadership	83	11.00	1.00	12.00	6.9036	.23543
	3.Laissez-faire Leadership	83	9.00	1.00	10.00	6.7952	.23047
	4.Laissez-faire Leadership	83	11.00	1.00	12.00	7.0964	.23853
	Valid N (listwise)	83					
IG	1.Idealized Influence	85	10.00	2.00	12.00	7.7765	.24160
	2.Idealized Influence	85	12.00	.00	12.00	7.9059	.27887
	3.Idealized Influence	85	5.00	7.00	12.00	10.2471	.15239
	4.Idealized Influence	85	9.00	3.00	12.00	10.2588	.17724
	1.Inspirational Motivation	85	10.00	2.00	12.00	7.7059	.31214
	2.Inspirational Motivation	85	9.00	3.00	12.00	8.1176	.28571
	3.Inspirational Motivation	85	10.00	2.00	12.00	10.7294	.11521
	4.Inspirational Motivation	85	10.00	2.00	12.00	10.2471	.17862
	1.Intellectual Stimulation	85	12.00	3.00	15.00	7.4000	.29095
	2.Intellectual Stimulation	85	11.00	1.00	12.00	7.8000	.29883
	3.Intellectual Stimulation	85	8.00	4.00	12.00	8.4471	.24796
	4.Intellectual Stimulation	85	10.00	2.00	12.00	8.5882	.21452
	1.Individualized Consideration	85	10.00	2.00	12.00	7.6941	.31888
	2.Individualized Consideration	85	8.00	4.00	12.00	8.3294	.23573
	3.Individualized Consideration	85	7.00	5.00	12.00	9.2000	.20891
	4.Individualized Consideration	85	9.00	3.00	12.00	9.0824	.23204
	1.Contingent Reward	85	9.00	3.00	12.00	7.5765	.28224
	2.Contingent Reward	85	11.00	1.00	12.00	8.1059	.27143
	3.Contingent Reward	85	9.00	3.00	12.00	7.9529	.23125
	4.Contingent Reward	85	11.00	1.00	12.00	8.0824	.31809
	1.Management-by-exception	85	9.00	1.00	10.00	6.3765	.22824
	2.Management-by-exception	85	11.00	1.00	12.00	7.5059	.25195
	3.Management-by-exception	85	9.00	3.00	12.00	7.5529	.21726
	4.Management-by-exception	85	11.00	1.00	12.00	7.5647	.30881
	1.Laissez-faire Leadership	85	11.00	1.00	12.00	6.8000	.25591
	2.Laissez-faire Leadership	85	12.00	.00	12.00	6.0824	.30779

	3.Laissez-faire Leadership	85	12.00	.00	12.00	4.8706	.31391
	4.Laissez-faire Leadership	85	12.00	.00	12.00	5.3529	.33293
	Valid N (listwise)	85					

Appendix (15): Non-parametric within-group comparisons for the intervention group

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.perception of emotion, 2.perception of emotion, 3 perception of emotion and 4 perception of emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.
Asymptotic significances are displayed. The significance level is .05.				

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.managing own emotion, 2.managing own emotion, 3.managing own emotion and 4.managing own emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.
Asymptotic significances are displayed. The significance level is .05.				

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.managing other emotion, 2.managing other emotion, 3.managing other emotion and 4.managing other emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.
Asymptotic significances are displayed. The significance level is .05.				

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Utalisation of emotion, 2.Utalisation of emotion, 3.Utalisation of emotion and 4.Utalisation of emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Sense of Power, 2.Sense of Power, 3.Sense of Power and 4.Sense of Power are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.612	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Self-Efficacy, 2.Self-Efficacy, 3.Self-Efficacy and 4.Self-Efficacy are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Idealized Influence, 2.Idealized Influence, 3.Idealized Influence and 4.Idealized Influence are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Inspirational Motivation, 2.Inspirational Motivation, 3.Inspirational Motivation and 4.Inspirational Motivation are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.
Asymptotic significances are displayed. The significance level is .05.				

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Intellectual Stimulation, 2.Intellectual Stimulation, 3.Intellectual Stimulation and 4.Intellectual Stimulation are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.001	Reject the null hypothesis.
Asymptotic significances are displayed. The significance level is .05.				

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Individualized Consideration, 2.Individualized Consideration, 3.Individualized Consideration and 4.Individualized Consideration are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.
Asymptotic significances are displayed. The significance level is .05.				

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Contingent Reward, 2.Contingent Reward, 3. Contingent Reward and 4. Contingent Reward are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.416	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Management-by-exception, 2.Management-by-exception, 3.Management-by-exception and 4.Management-by-exception are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Laissez-faire Leadership, 2.Laissez-faire Leadership, 3.Laissez-faire Leadership and 4.Laissez-faire Leadership are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Appendix (16): Non-parametric within-group comparisons for the control group

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Perception of emotion, 2.Perception of emotion, Perception of emotion and 4 Perception of emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.164	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Managing other emotion, 2.Managing other emotion, 3.Managing other emotion and 4.Managing other emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.232	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Utalisation of emotion, 2.Utalisation of emotion, 3.Utalisation of emotion and 4. Utalisation of emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.785	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Managing own emotion, 2.Managing own emotion, 3.Managing own emotion and 4. Managing own emotion are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.273	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Sense of Power, 2.Sense of Power, 3.Sense of Power and 4.Sense of Power are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.230	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Self-Efficacy, 2.Self-Efficacy, 3.Self-Efficacy and 4.Self-Efficacy are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.256	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Idealized Influence, 2.Idealized Influence, 3.Idealized Influence and 4.Idealized Influence are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.459	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Inspirational Motivation, 2.Inspirational Motivation, 3.Inspirational Motivation and 4.Inspirational Motivation are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.003	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Individualized Consideration, 2.Individualized Consideration, 3.Individualized Consideration and 4.Individualized Consideration are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.113	Retain the null hypothesis.

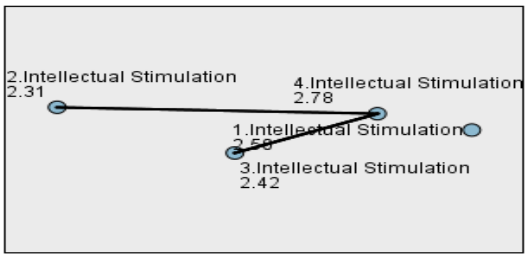
Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Intellectual Stimulation, 2.Intellectual Stimulation, 3.Intellectual Stimulation and 4.Intellectual Stimulation are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.049	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Pairwise Comparisons



Each node shows the sample average rank.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
2.Intellectual Stimulation-3. Intellectual Stimulation	-.108	.200	-.541	.588	1.000
2.Intellectual Stimulation-1. Intellectual Stimulation	.193	.200	.962	.336	1.000
2.Intellectual Stimulation-4. Intellectual Stimulation	-.470	.200	-2.345	.019	.114
3.Intellectual Stimulation-1. Intellectual Stimulation	.084	.200	.421	.674	1.000
3.Intellectual Stimulation-4. Intellectual Stimulation	-.361	.200	-1.804	.071	.428
1.Intellectual Stimulation-4. Intellectual Stimulation	-.277	.200	-1.383	.167	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
Significance values have been adjusted by the Bonferroni correction for multiple tests.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Contingent Reward, 2.Contingent Reward, 3. Contingent Reward and 4. Contingent Reward are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.314	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Laissez-faire Leadership, 2.Laissez-faire Leadership, 3.Laissez-faire Leadership and 4.Laissez-faire Leadership are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.707	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of 1.Management-by-exception, 2.Management-by-exception, 3.Management-by-exception and 4.Management-by-exception are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	.673	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Appendix (17) Non-parametric comparisons of study variables between the intervention and control groups

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of 1.Perception of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.568	Retain the null hypothesis.
2	The distribution of 2.Perception of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.075	Retain the null hypothesis.
3	The distribution of 3 Perception of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
4	The distribution of 4 Perception of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
5	The distribution of 1.Managing owr emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.278	Retain the null hypothesis.
6	The distribution of 2.Managing owr emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.314	Retain the null hypothesis.
7	The distribution of 3.Managing owr emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
8	The distribution of 4.Managing owr emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
9	The distribution of 1.Managing othe emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.169	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
10	The distribution of 2.Managing other emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.103	Retain the null hypothesis.
11	The distribution of 3.Managing other emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
12	The distribution of 4.Managing other emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
13	The distribution of 1.Utalisation of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.320	Retain the null hypothesis.
14	The distribution of 2.Utalisation of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.560	Retain the null hypothesis.
15	The distribution of 3.Utalisation of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
16	The distribution of 4.Utalisation of emotion is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
17	The distribution of 1.Sense of Power is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.346	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
18	The distribution of 2.Sense of Powe is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.033	Reject the null hypothesis.
19	The distribution of 3.Sense of Powe is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.283	Retain the null hypothesis.
20	The distribution of 4.Sense of Powe is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.344	Retain the null hypothesis.
21	The distribution of 1.Self-Efficacy is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.407	Retain the null hypothesis.
22	The distribution of 2.Self-Efficacy is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.595	Retain the null hypothesis.
23	The distribution of 3.Self-Efficacy is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
24	The distribution of 4.Self-Efficacy is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
25	The distribution of 1.Idealized Influence is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.330	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
26	The distribution of 2.Idealized Influence is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.925	Retain the null hypothesis.
27	The distribution of 3.Idealized Influence is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
28	The distribution of 4.Idealized Influence is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
29	The distribution of 1.Inspirational Motivation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.966	Retain the null hypothesis.
30	The distribution of 2.Inspirational Motivation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.234	Retain the null hypothesis.
31	The distribution of 3.Inspirational Motivation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
32	The distribution of 4.Inspirational Motivation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
33	The distribution of 1.Intellectual Stimulation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.625	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
34	The distribution of 2.Intellectual Stimulation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.148	Retain the null hypothesis.
35	The distribution of 3.Intellectual Stimulation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.076	Retain the null hypothesis.
36	The distribution of 4.Intellectual Stimulation is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.504	Retain the null hypothesis.
37	The distribution of 1.Individualized Consideration is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.366	Retain the null hypothesis.
38	The distribution of 2.Individualized Consideration is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.037	Reject the null hypothesis.
39	The distribution of 3.Individualized Consideration is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
40	The distribution of 4.Individualized Consideration is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.018	Reject the null hypothesis.
41	The distribution of 1.Contingent Reward is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.978	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
42	The distribution of 2.Contingent Reward is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.088	Retain the null hypothesis.
43	The distribution of 3.Contingent Reward is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.528	Retain the null hypothesis.
44	The distribution of 4.Contingent Reward is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.634	Retain the null hypothesis.
45	The distribution of 1.Management-by-exception is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.157	Retain the null hypothesis.
46	The distribution of 2.Management-by-exception is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.155	Retain the null hypothesis.
47	The distribution of 3.Management-by-exception is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.060	Retain the null hypothesis.
48	The distribution of 4.Management-by-exception is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.180	Retain the null hypothesis.
49	The distribution of 1.Laissez-faire Leadership is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.986	Retain the null hypothesis.

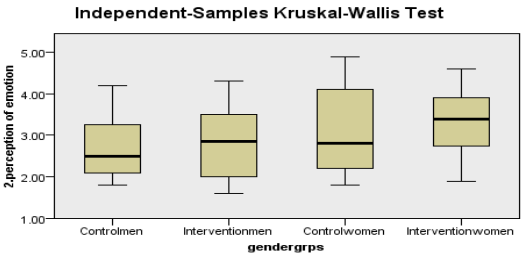
Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
50	The distribution of 2.Laissez-faire Leadership is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.053	Retain the null hypothesis.
51	The distribution of 3.Laissez-faire Leadership is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
52	The distribution of 4.Laissez-faire Leadership is the same across categories of Groups.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.

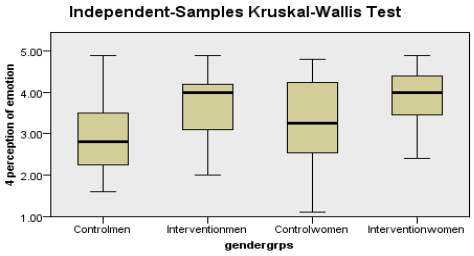
Asymptotic significances are displayed. The significance level is .05.

Appendix (18) Graph Differences in gender by group



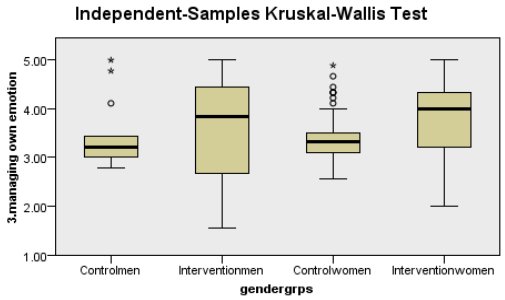
Total N	168
Test Statistic	10.551
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.014

1. The test statistic is adjusted for ties.



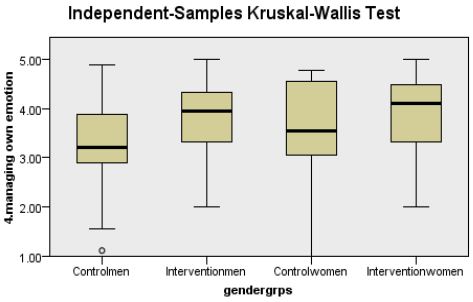
Total N	168
Test Statistic	32.456
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.



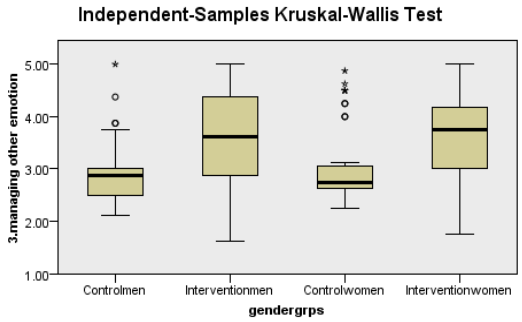
Total N	168
Test Statistic	12.172
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.007

1. The test statistic is adjusted for ties.



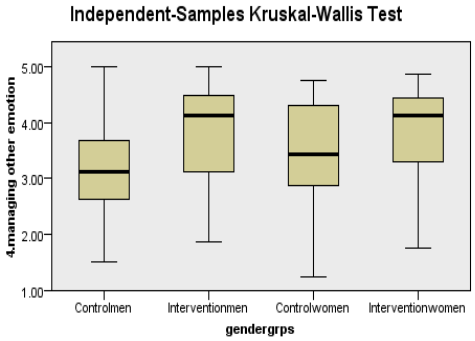
Total N	168
Test Statistic	13.868
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.003

1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	21.501
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

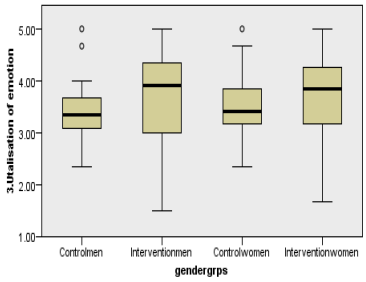
1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	17.605
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.001

1. The test statistic is adjusted for ties.

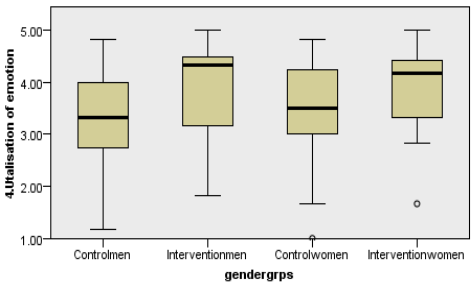
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	7.534
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.057

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

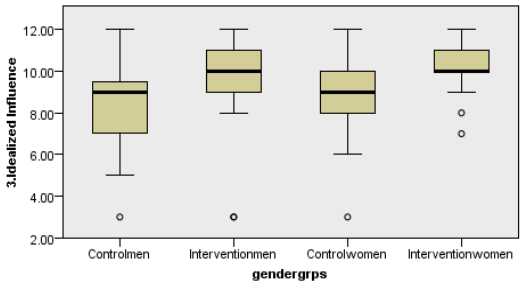
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	17.380
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.001

1. The test statistic is adjusted for ties.

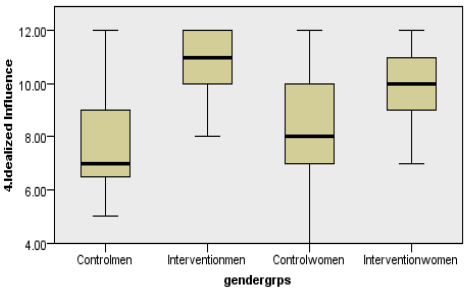
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	50.789
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

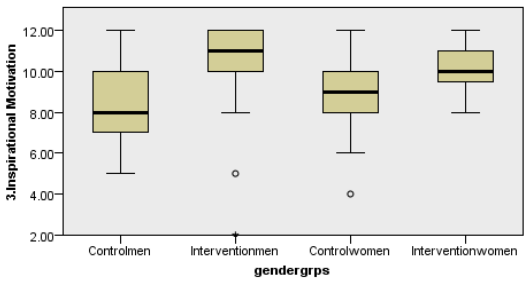
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	47.009
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

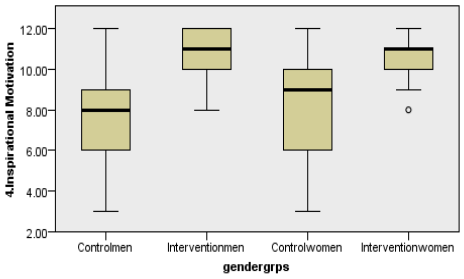
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	32.847
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	58.240
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

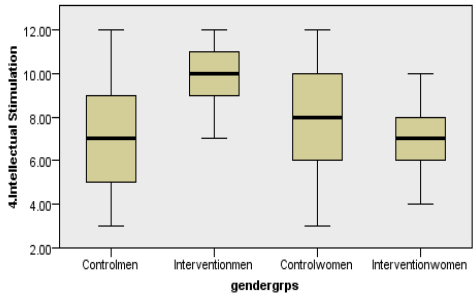
1. The test statistic is adjusted for ties.

Independent-Samples Kruskal-Wallis Test

Total N	168
Test Statistic	8.257
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.041

1. The test statistic is adjusted for ties.

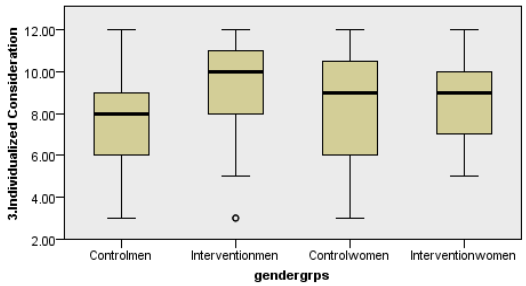
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	48.346
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

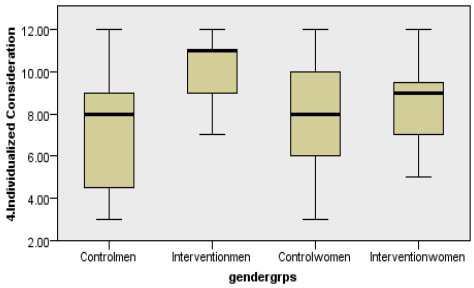
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	13.701
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.003

1. The test statistic is adjusted for ties.

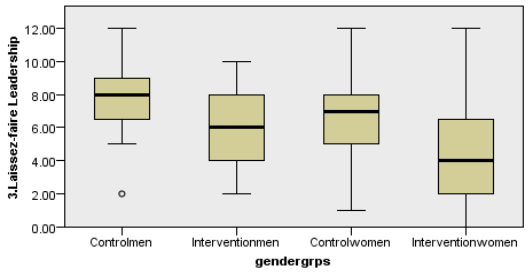
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	23.614
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

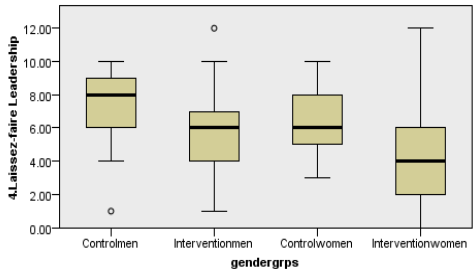
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	25.991
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

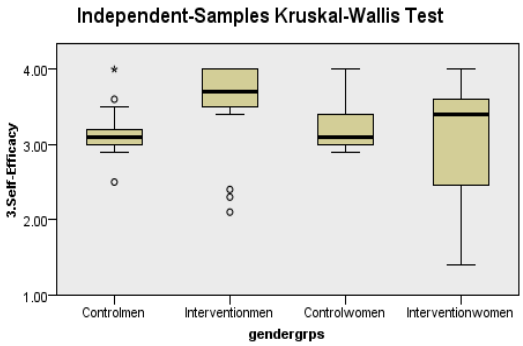
1. The test statistic is adjusted for ties.

Independent-Samples Kruskal-Wallis Test



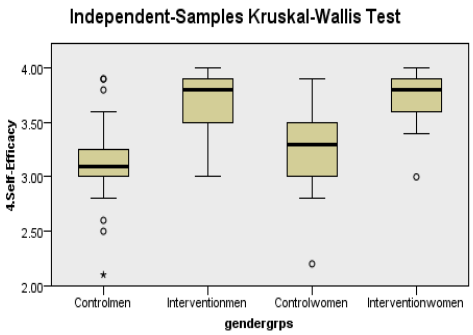
Total N	168
Test Statistic	30.584
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	46.348
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

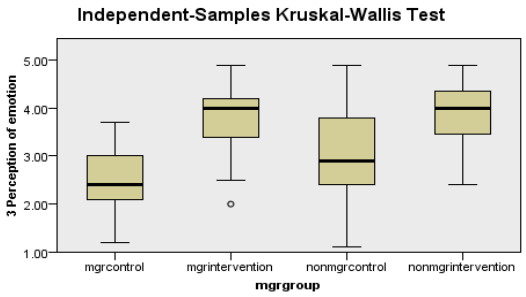
1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	80.602
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

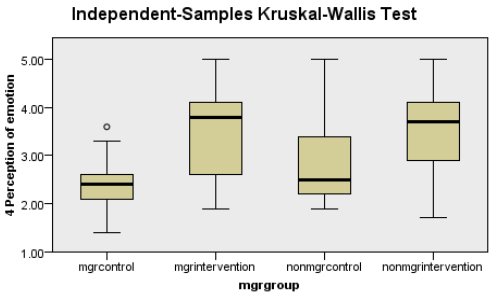
1. The test statistic is adjusted for ties.

Appendix (19) Graph Differences in Manager and non-manager by group



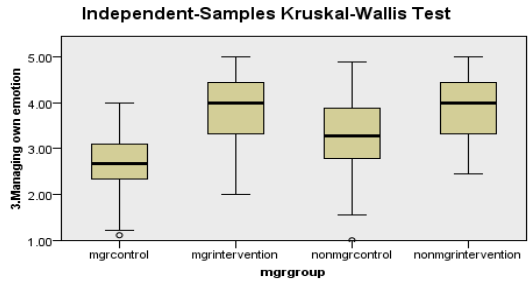
Total N	168
Test Statistic	48.216
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.



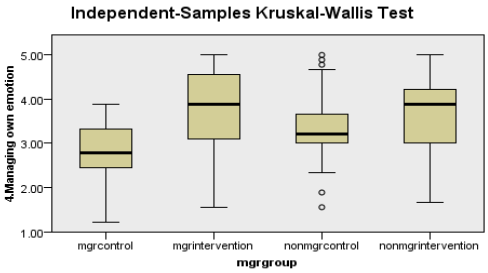
Total N	168
Test Statistic	38.772
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	37.339
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

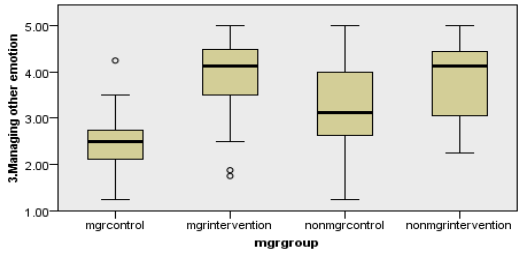
1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	25.201
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

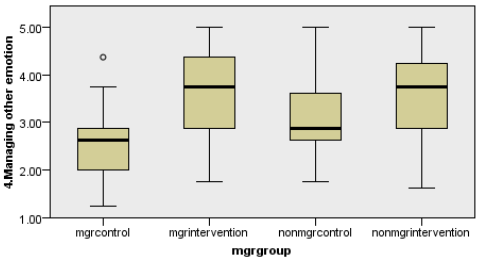
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	42.023
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

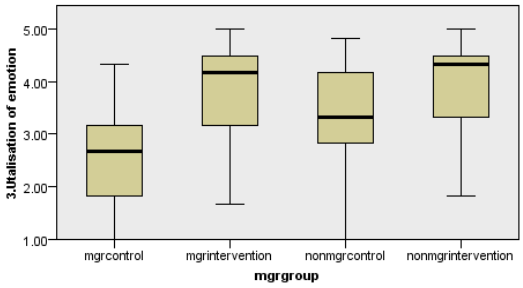
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	32.212
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

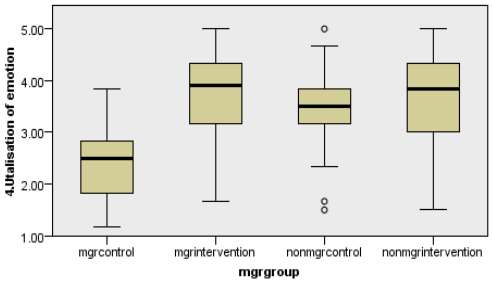
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	38.964
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

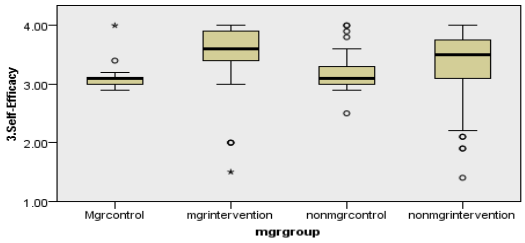
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	35.179
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

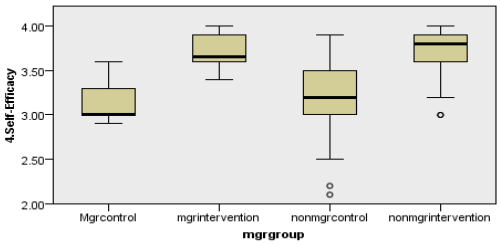
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	26.070
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

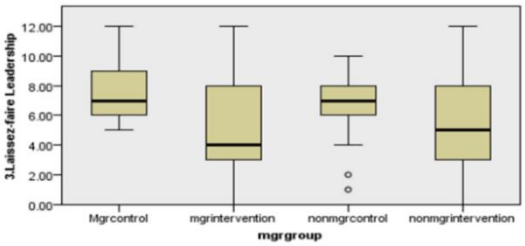
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	81.255
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

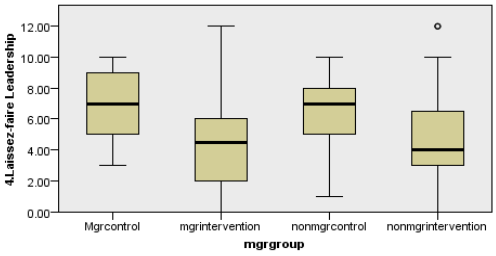
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	17.583
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.001

1. The test statistic is adjusted for ties.

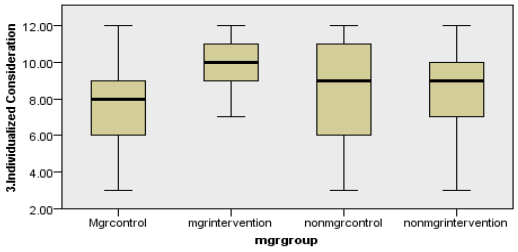
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	23.057
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

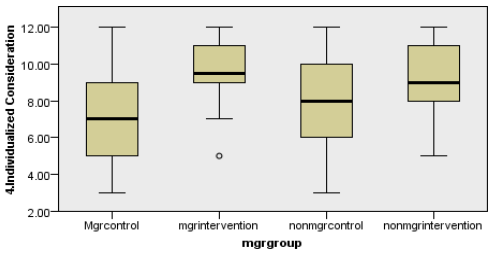
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	12.950
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.005

1. The test statistic is adjusted for ties.

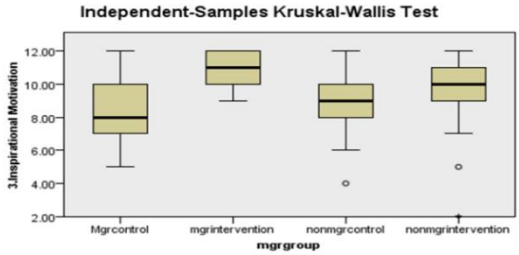
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	16.209
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.001

1. The test statistic is adjusted for ties.

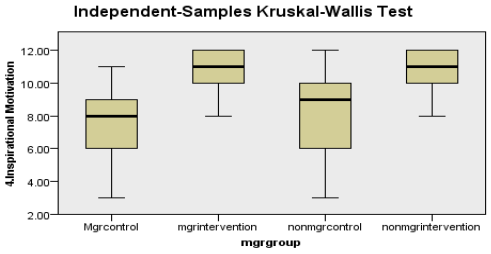
Independent-Samples Kruskal-Wallis Test



Total N	168
Test Statistic	36.730
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

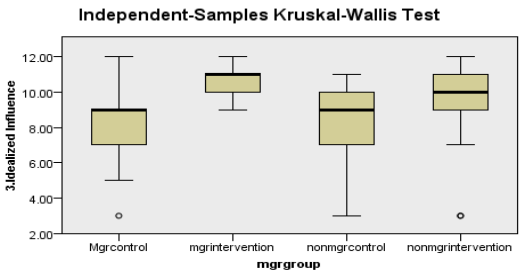
1. The test statistic is adjusted for ties.

Independent-Samples Kruskal-Wallis Test



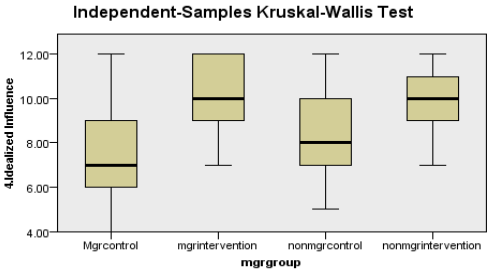
Total N	168
Test Statistic	59.573
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	52.234
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.



Total N	168
Test Statistic	47.014
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. The test statistic is adjusted for ties.

Appendix (20) Certificates

Institute of Work Psychology

The 6th Biennial Institute of Work Psychology Conference (IWP)

19th – 21st June 2018

Sheffield, United Kingdom

Sheffield University Management School.

This is to certify that

Maha Alreshidi

Presented the paper entitled:

The impact of a training intervention in emotional intelligence in university employees in Saudi Arabia

at the 6th Biennial IWP Conference in Sheffield, UK during 19th – 21st June 2018

Dr Sarah Brooks

IWP 2018 Conference Chair

CONSORTIUM OF EUROPEAN
RESEARCH ON EMOTION

CERE

Certificate of Participation and presented a poster

Maha Alreshidi .

The impact of a Emotional intelligence training intervention on emotional intelligence, leadership styles, self-efficacy and perception of power in university nursing specialties in Saudi Arabia

The Consortium of European Research on Emotion (CERE 2018)

which took place from

Wednesday April 4th 2018

to

Thursday April 5th 2018

Hosted by
University of Glasgow


SPARC
Internationalisation
and Collaboration
SPARC 2018
This Certificate is awarded to:
Alreshidi Maha
SPARC 4&5 July 2018, MediaCity,
The University of Salford,
Presentation
Certificate/Event Ref: 776-1-732117-10-1

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05 June 2015

Confirmation of Conference Participation

To whom it may concern,

This is to confirm **Maha Alreshidi** presented a poster at the 2015 Salford Postgraduate Annual Research Conference (SPARC).

Maha's poster was entitled: "Emotional Intelligence as means of enhancing leadership styles among Faculty members in Nursing College of Health Science in Hail University, Saudi Arabia".

The conference took place on the 26 – 28 May 2015, and was hosted at the University of Salford, UK.

Yours faithfully,

Dr Victoria Sheppard
Researcher Developer Coordinator